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Preliminary Montana public investment plan

AN OLD WEST REGIONAL COMMISSION TECHNICAL ASSISTANCE PROJECT

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MONTANA

PRELIMINARY STATE PUBLIC

INVESTMENT PLAN

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April, 1975

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Montana's Economic Development Goal and Objectives

Montana's main economic development goal is to provide employment opportunities and economic security for our people and at the same time to protect the qualities of life that make Montana a special place to live.

To achieve this economic development goal, attainment of objectives in several interrelated areas is necessary. These objectives include:

1. To increase private investment in the state by promoting and encouraging the establishment, development and expansion of new and existing business and industry.
2. To stabilize and diversify the state's economy.
3. To reduce or reverse the income gap.
4. To reduce or reverse the job gap.
5. To reduce unemployment and under-employment.
6. To increase family and per capita incomes.
7. To reduce the number of persons employed in declining industries.
8. To slow or reverse the process of out-migration.
9. To safeguard and promote the health of all people of the state by increasing the number of health personnel and facilities.
10. To work toward remedying the declining status of the agricultural industry.
11. To increase the supply of technical and professional persons.
12. To develop the tourism and recreational potential of the state.

13. To improve the transportation system and reduce freight rates.

14. To stabilize the tax base.

15. To improve the quality of life of the Montana Native American.

16. To improve the housing supply and conditions.

17. To provide adequate air and water pollution standards, reclamation standards, and other environmental standards.

The programs of the Old West Regional Commission are viewed as instruments through which we can accelerate the accomplishment of these state objectives and, in keeping with the philosophy of these programs, enable them to serve the dual purpose of promoting the economic expansion of the entire Old West Region.

MONTANA'S ECONOMY

Population and Jobs in Montana Since 1950: A Historical Perspective

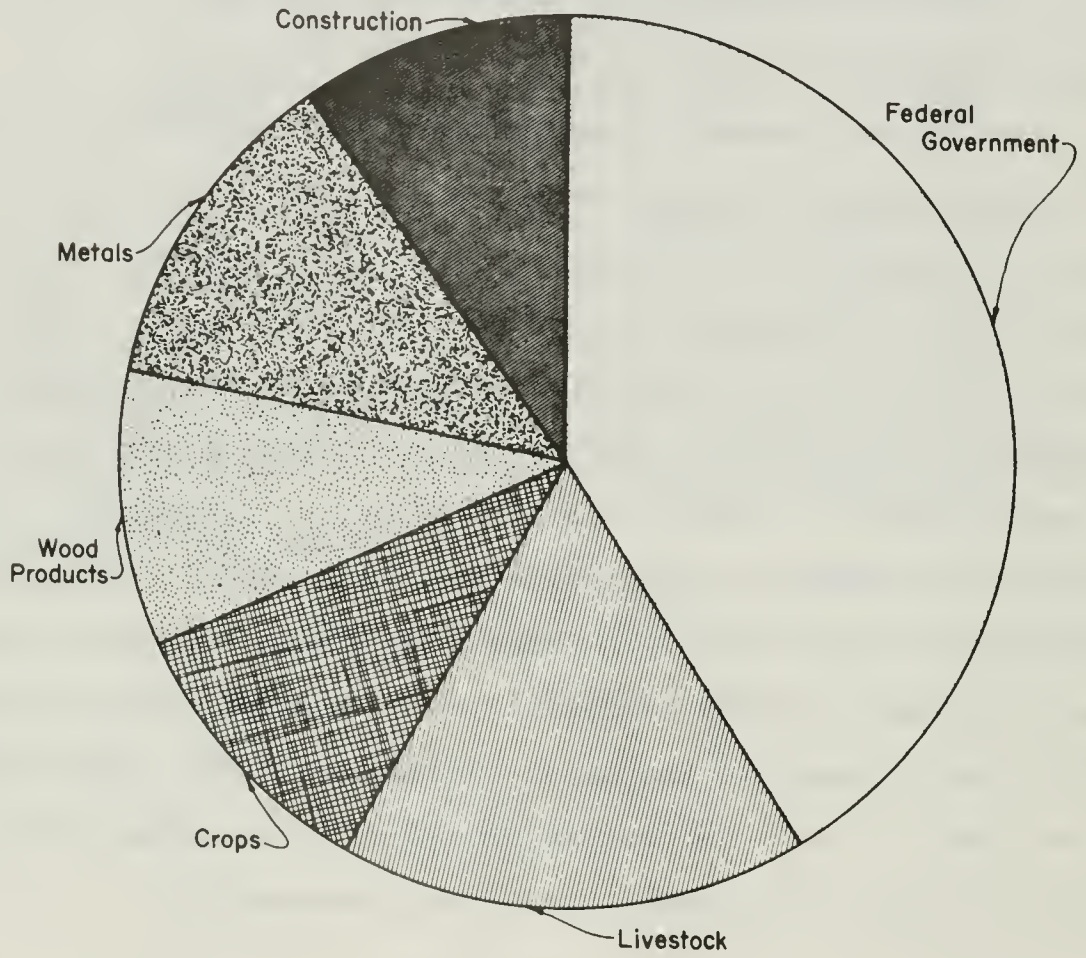
Major Trends

Montana was unusually prosperous in the years immediately following World War II, thanks largely to the favorable conditions in agriculture. The situation changed, however, beginning about 1950, when Montana's economy turned lackluster. From 1950 to 1970, the state experienced periods of above-average prosperity, but they were due mostly to unusually good years in agriculture or to other isolated events. In general, Montana's economic position relative to the rest of the nation deteriorated significantly. These events and the reasons behind them have been examined in detail in the Montana Economic Study. We will only summarize the major conclusions, and update some of the data to 1970, so that Montana's current economic situation may be put into proper historical perspective.

Population

We begin by examining population trends because, underneath it all, an economy consists of people. Table 1 reports the population of Montana and the United States during 1950, 1960, and 1970. These figures show that during the fifties Montana's population increased significantly, but at a rate below that of the United States: the number of Montanans grew

KEY SECTORS OF MONTANA'S ECONOMY*



* Out-of-state fund sources (and in-state investment funds) that support jobs for Montanans, 1972.

from 591,000 to 675,000 or 14.2 per cent, while the nation's population rose from 151.3 million to 179.3 million, about 18.5 per cent. Between 1960 and 1970 the disparity between Montana and the United States reached dramatic dimensions. By 1970, the number of Montanans had inched upward to 694,000, a 2.8 per cent gain from 1960, while the nation's population grew to 203.2 million, up 13.3 per cent during the decade.

The growth of the nation's population was due primarily to an excess of births over deaths, but Montana's slow population growth cannot be attributed to either of these factors. In fact, Montana's birth rate was slightly above the national average and its death rate was about the same as elsewhere in the nation. Rather, the slow growth rate of population was primarily due to net migration, a factor which played only a minor role for the nation. Table 1 shows that during the fifties about 25,000 more persons left the state than moved in. Between 1960 and 1970 this figure rose to 58,000, representing over 8 per cent of the 1960 population.

Montanans are fond of dicussing the advantages of living in Montana and the desires of many people to move to the state. Yet, figures in Table 1 demonstrate that, at least between 1950 and 1970, those leaving the state far outnumbered those entering it. People move for many reasons; however, we believe that the single most important factor explaining the excessive out-migration between 1950 and 1970 was the slow growth of Montana's economy.

TABLE 1

Resident Population of Montana and the United States
1950-70

(Thousands)

	Resident Population			Percent Change		Net Migration	
	1950	1960	1970	1950-60	1960-70	1950-60	1960-70
Montana	591	675	694	14.2	2.8	-25	-58
United States	151,326	179,323	203,185	18.5	13.3	2,642	3,020

Sources: U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 304 (table 4) and No. 460 (table 3). Percentages derived.

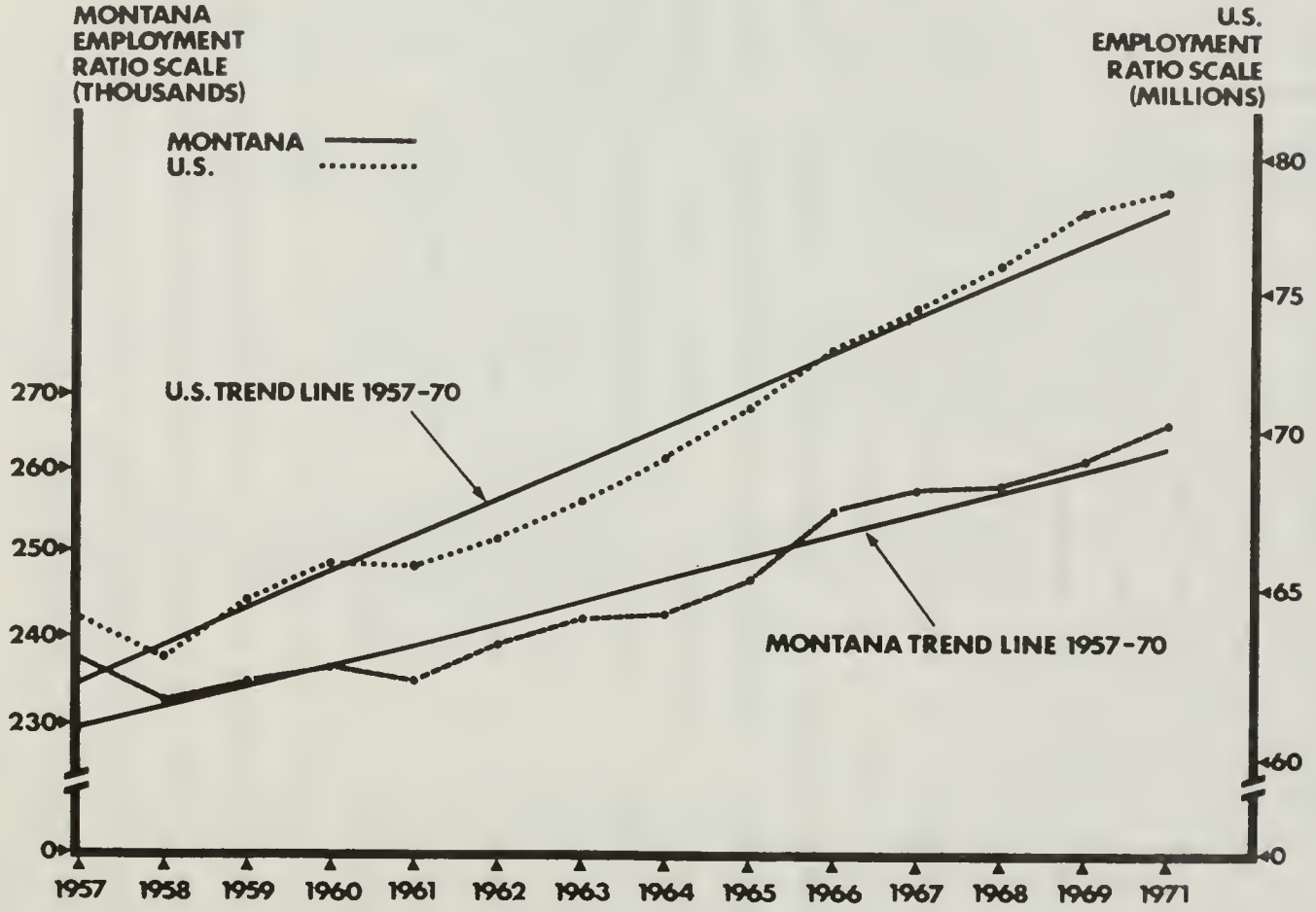
Jobs and Unemployment

A state economy's health may be measured in a number of ways. We have chosen to look at trends in employment, unemployment, and per capita income. Each represents a different facet of the economy and may be subject to varying interpretations; taken together, they accurately portray Montana's economic performance between 1950 and 1970.

Figures 1 and 2 present the trends in employment and unemployment for Montana and the United States between 1957 and 1970 (1957 is the earliest year for which reliable Montana data are available). Looking first at figure 1, we see that employment in Montana grew at a much slower rate than did employment in the nation as a whole. Abstracting from the minor peaks and troughs, we find that Montana's employment grew by about 12 per cent between 1957 and 1970, as compared to almost 23 per cent in the United States. The unemployment data shown in figure 2 tell much the same story. Montana's unemployment rate generally follows the same up and down pattern as that for the United States; but, with several exceptions, it averaged about one full percentage point above the national figure. Thus, these data clearly suggest that Montana's economy was not creating jobs as fast as the national economy, and that many of the migrants from the state left in search of jobs.

FIGURE 1

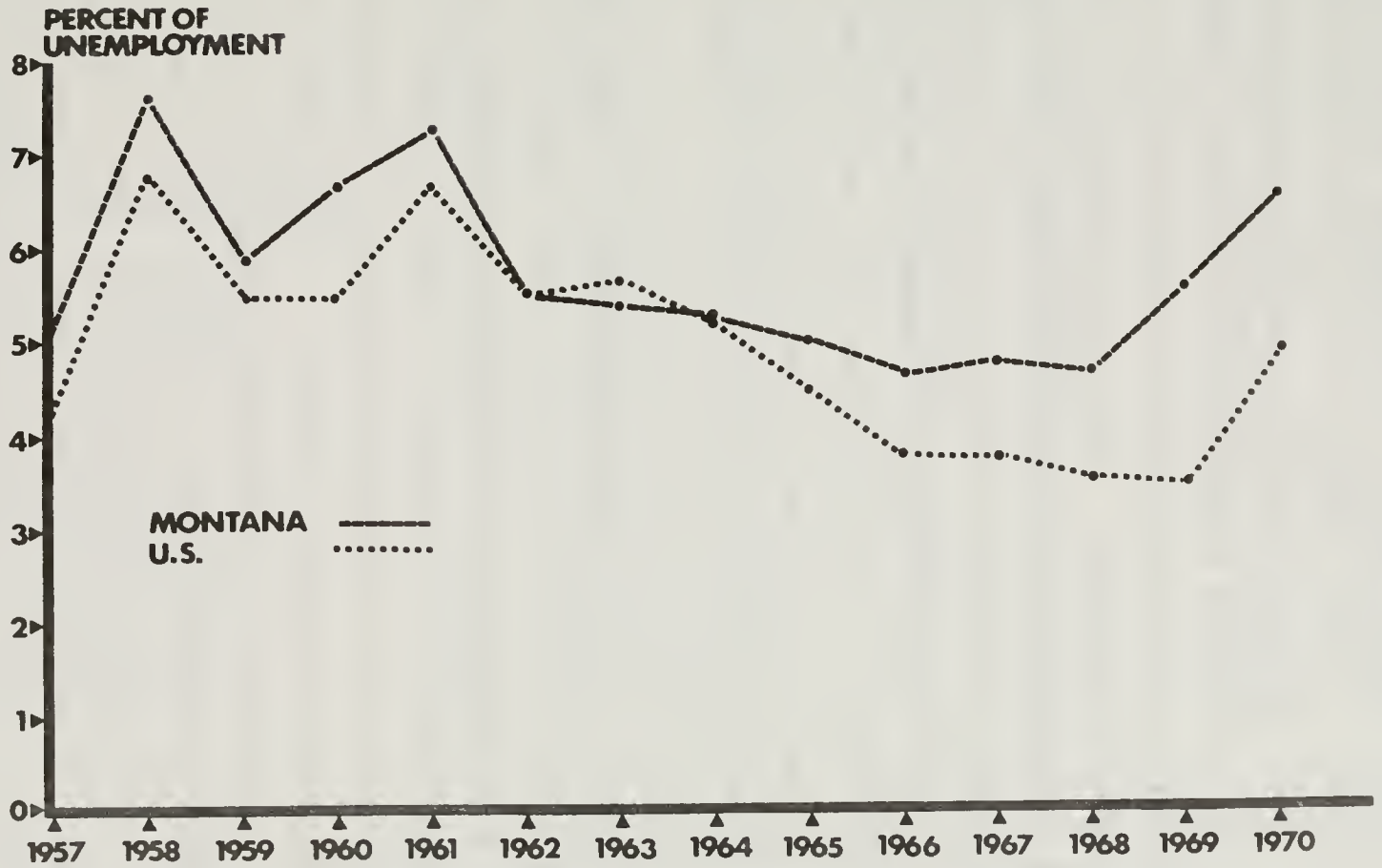
TOTAL EMPLOYMENT, MONTANA AND THE UNITED STATES, 1957–1970



SOURCE Montana Department of Labor and Industry Employment Security Division and U S Department of Labor *1974 Manpower Report of the President*

FIGURE 2

UNEMPLOYMENT RATES, MONTANA AND THE UNITED STATES, 1957–1970



SOURCE: U.S. Department of Labor, *Manpower Report of the President*, 1970 and 1974.

Primary and Derivative Industries

A brief overview of Montana's economy can be obtained by conceptually dividing it into primary and derivative industries. Primary industries are those which depend heavily on markets outside the state or are otherwise influenced by factors originating beyond Montana's borders. The major examples are agriculture, mining, manufacturing, railroads, and the federal government. Derivative industries, on the other hand, primarily serve the local population and include such businesses as wholesale and retail trade, the services, and state and local governments. Economists believe that most economic growth occurring in relatively small areas, such as states, can be attributed to events outside the region under study and that changes in the derivative industries can be traced to changes in primary industries.

Table 2 presents Montana employment in primary and derivative industries during 1950, 1960, and 1970. It takes only a quick glance at these figures to determine why Montana's economy has been so lackluster: there has been little or no growth in jobs in the primary industries. Between 1950 and 1970, primary employment declined by over 18,000 workers. This decrease was more pronounced between 1950 and 1960, when almost 17,000 primary jobs were lost, than during the sixties, when a much more moderate decrease of 1,500 jobs occurred. The major factor causing the declines in primary employment was agriculture; the number of workers on Montana's farms and

TABLE 2
Civilian Employment in Montana, 1950-70

Industry	Civilian Employment (Thousand) 1950	1960	1970	Change in Employment (Thousand) 1950-60	1960-70	Distribution of Employment (Per Cent) 1950	1960	1970
Primary industries	103.3	86.6[1]	85.1	-16.7[1]	-1.5[1]	100.0	100.0	100.0
Agriculture	52.8	39.2	36.1	-13.6	-3.1	51.1	45.3	42.4
Mining	10.2	7.9[1]	6.6	- 2.3[1]	-1.3[1]	9.9	9.1[1]	7.8
Metal mining	7.8	5.0[1]	4.0	- 2.8[1]	-1.0[1]	7.6	5.8[1]	4.7
Coal mining, oil and gas extraction, and non-metallic mining	2.4	2.9	2.6	0.5	-0.3	2.3	3.3	3.1
Manufacturing	18.0	20.6[1]	23.9	2.6[1]	3.3[1]	17.4	23.8[1]	28.1
Food and kindred products	4.2	4.3	4.3	0.1	0.0	4.1	5.0	5.1
Lumber and wood products	5.4	7.3	8.2	1.9	0.9	5.2	8.4	9.6
Primary metals refining	4.0	4.0[1]	4.7	0.0[1]	0.7[1]	3.9	4.6[1]	5.5
Other manufacturing	4.4	5.0	6.7	0.6	1.7	4.3	5.8	7.9
Railroads	14.0	9.0	6.6	- 5.0	-2.4	13.6	10.4	7.8
Federal government	8.3	9.9	11.9	1.6	2.0	8.0	11.4	14.0
Derivative industries	125.2	150.3	180.6	25.1	30.3	100.0	100.0	100.0
Nonrail transportation, communications, and utilities	7.9	10.0	10.8	2.1	0.8	6.3	6.7	6.0
Contract construction	10.5	11.0	11.0	0.5	0.0	8.4	7.3	6.1
Wholesale and retail trade	36.7	40.5	48.1	3.8	7.6	29.3	26.9	26.6
Services and finance	23.4	30.0	41.8	6.6	11.8	18.7	20.0	23.1
State and local government	20.0	28.6	40.7	8.6	12.1	16.0	19.0	22.5
All other employment	26.7	30.2	28.2	3.5	-2.0	21.3	20.1	15.6
Total employment	228.5	236.9[1]	265.7	8.4[1]	28.8[1]			

Sources: University of Montana, Bureau of Business and Economic Research, Research Report of the Montana Economic Study, pt. 1, vol. 2, chap. 2, table 2.4; and Montana Department of Labor and Industry, Employment Security Division, Montana Employment and Labor Force, table C (revised March 1974). Percentages derived.

Notes: The data have not been adjusted for residence and multiple job holders. Percentages detail may not add to totals because of rounding.

[1]Adjusted to eliminate effects of strike.

ranches dropped from almost 53,000 in 1950, to 39,000 in 1960 and then to 36,000 in 1970. For the most part, this resulted from the consolidation of farm and ranch units and reflects long-run agricultural trends occurring in Montana and throughout the nation. Agriculture, however, is not the whole story; there were also significant declines in the number of workers in mining and railroads -- totaling 11,000 over the twenty-year period.

On the bright side, there were increases in wood products and in federal government employment; between 1950 and 1970, the former grew by almost 3,000 workers and the latter by 3,600 workers. But the growth of these industries, plus the addition of about 3,000 jobs in other industries, was not sufficient to counterbalance the declines in agriculture, mining, and railroads.

The relationships between primary and derivative industries are subtle and complex. In some cases, a direct connection between primary and derivative jobs may be established and employment multipliers may be estimated. But, over a period as long as a decade, many other changes take place which also affect employment relationships. Growing affluence, for instance, creates an increased demand for both private and public services; employment figures in those industries reflect this increase. Thus, the expansion in derivative employment shown in table 2 does not conflict with the decreases in primary employment. Notice, however, that the growth in derivative

employment in the fifties was smaller than in the sixties. This correlates with the overall trend in primary employment, which declined more during the former than the latter period.

The overriding impression of the evidence presented so far has been Montana's dismal economic growth. While this is undoubtedly true, it does not mean that Montana's economy was stagnant or that no changes took place. Among the primary industries, the major event was the relative decline in agriculture (table 2). During 1950, farms and ranches accounted for 51 per cent of total primary employment. By 1970, this figure had dropped to 42 per cent. Despite this precipitous decline, agriculture remains the largest single employer among Montana's primary industries. Similarly, the aforementioned declines in mining and railroads, and the growth in wood products, the federal government, and several other industries, are reflected by their changing proportions of total primary employment. In general, we conclude that Montana in 1970 was much less dependent on agriculture than in 1950; but farms and ranches continue to make up the major share of this state's economic base.

There were also major alterations in the composition of Montana's derivative industries. In 1950, wholesale and retail trade was the single largest category and accounted for 29 per cent of total derivative employment. Over the next twenty years, employment in the services and in state and local government grew at a greater than average rate and almost equaled

trade's relative share by 1970. Thus, in 1950 we could describe the representative derivative worker as most likely to be in wholesale or retail trade. But, twenty years later, he could just as well be a medical technician, a public school teacher, or a policeman.

The increasing concentration of employment in relatively low-paying industries -- especially trade and services and state and local government -- goes a long way toward explaining the failure of per capita incomes in Montana to keep up with national income growth.

In summary, we have seen that Montana's population grew at a rate far below the national average between 1950 and 1970 due, primarily, to net out-migration. We believe the major determinant of this net flow of people from the state was that an insufficient number of new jobs was created. Also, the average level of economic well-being, as measured by per capita income, failed to keep pace with the increases experienced elsewhere in the nation. This slow economic growth may, in turn, be traced to the poor performance of Montana's primary industries. This does not imply that Montana's economy was static and unchanging. The traditional bulwarks of agriculture, mining, and railroads lost some of their preeminence to wood products, the federal government, and several other industries. In addition, the service industries and state and local government increased their employment substantially.

This, briefly, is a description of major economic trends in Montana in the fifties and sixties. Since 1970, there have been some signs, and a good

deal of discussion to the effect that things are changing in Montana: the market for Montana's agricultural products appears rosy, Montana is becoming more urbanized, and more and more people from out of state appear to be coming here to live.

Further perspective on our present economic condition can be gained by looking more closely at the events of the past five years.

1970-1974: A time of Contradictions?

There are many pitfalls involved in attempting to analyze recent economic events. Above all, there is the paucity of up-to-date and accurate numbers. Economic data are notoriously behind the times. We are just now receiving some of the information for 1972, and it will be two more years until certain 1974 figures are available. While we do have some relatively recent data measuring certain aspects of the economy (such as employment and personal income), the more detailed background information, which enables the analyst to correctly interpret the broad aggregates, is simply not yet available.

Current economic analysis is fraught with dangers because the period is often too short to put things in perspective. The ups and downs and little squiggles shown in figures 1 to 3 begin to make sense only when viewed over a long period. It is very difficult to discern the underlying trends or changes in conditions by looking at data for only three or four years. Also, certain events can focus attention on tendencies which may have existed for a long time but were simply not noticed. The energy crisis, which had been building for many years, did not come to the forefront until the oil embargo.

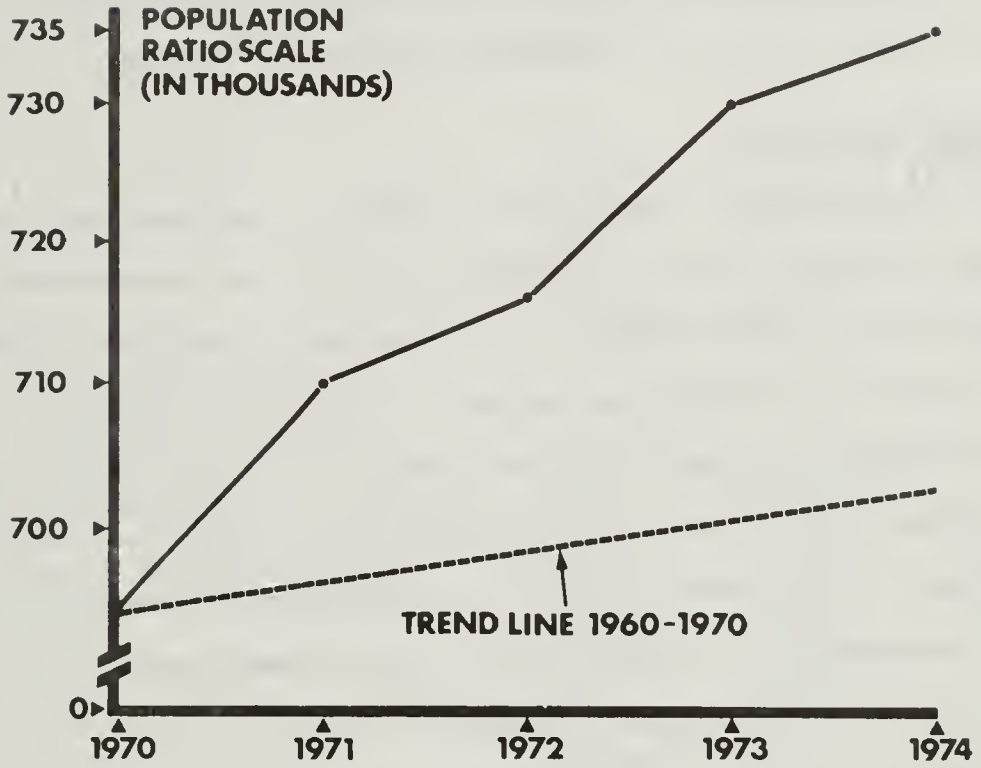
All in all, we feel very humble about our attempts to assess economic events in Montana since 1970. Our analysis is phrased in speculative terms and includes many qualifiers because we simply do not have sufficient data to make definite conclusions. We would not be surprised if, rereading this material several years from now, our explanations appear naive and turn out to be far from accurate.

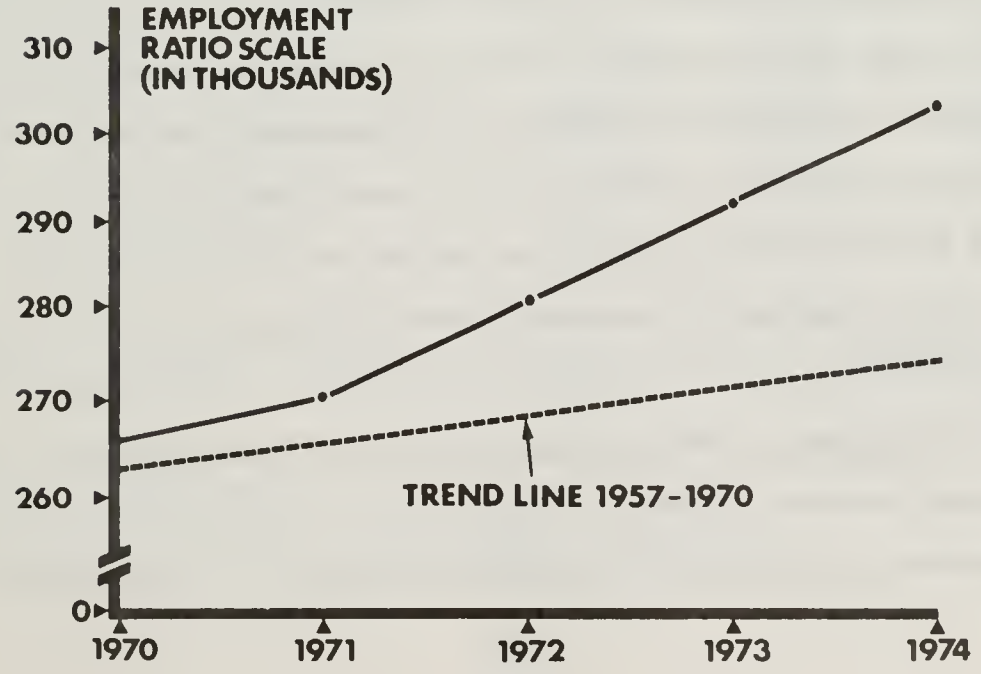
Figure 3 presents the data for population, and employment in Montana since 1970. According to preliminary estimates, Montana's population was 735,000 on July 1, 1974, up from about 694,000 in 1970. These population figures should be taken with a grain of salt because they are only estimates and are not as reliable as the actual counts provided by the census. (We will have more to say about population later.) Total employment (and per capita income in 1958 dollars) had moderate increases from 1970 to 1971. Beginning in 1972, estimates of both turned sharply upward, with inferred growth rates significantly greater than their historical trends. In both cases, however, the latest figures still are preliminary estimates and future revisions may be quite different.

All in all, these figures seem to indicate that Montana's economy has not performed badly since 1970; population, employment, and per capita income all are exceeding their historical trends and their growth rates may even be accelerating. There are, however, other factors which dampen our optimism. As we mentioned earlier, the data are incomplete and we are unable to put things into perspective. Nevertheless, there is contra-

Figure 3

MONTANA'S POPULATION, EMPLOYMENT
since 1970





dictory evidence and we would be hesitant to conclude that the Montana economy has turned a corner and broken the trend of slow growth. The reasons behind our reservations are outlined briefly here; many of them will be expanded further when we later look at individual sectors of Montana's economy.

Primary Employment

Looking first at employment (table 3), we are encouraged by the increase in primary employment but our enthusiasm is dampened for a number of reasons. According to the estimates, the growth was distributed among all the major primary industries except railroads. We are skeptical of the figures for agriculture, which show an increase of 400 workers. While they seem to indicate a break in the long downward trend in this industry, we know that agricultural employment is very difficult to estimate and that these figures may be the most unreliable of all the numbers reported in table 3. Given the estimating methods, a change of 400 out of 36,000 should not be taken too seriously. The best that we can say is that it appears that between 1970 and 1974 people did not leave farms and ranches as fast as during previous periods. It should be kept in mind that the departure of some may have been only temporarily postponed due to the current prosperity in agriculture.

The largest number of new jobs (1,200) was provided by the wood products industry. But 1970 is not a good year for comparison purposes; it was not a good year for the forest

TABLE 3

Civilian Employment in Montana, 1970 and 1974

(In thousands)

Industry	1970	1974[1]	Change 1970-74
Primary industries	85.1	87.6	2.5
Agriculture	36.1	36.5	.4
Mining	6.6	7.4	.8
Metal mining	4.0	4.2	.2
Coal mining, oil and gas extraction and non-metallic mining	2.6	3.2	.6
Manufacturing	23.9	24.5	.6
Food and kindred products	4.3	4.0	- .3
Lumber and wood products	8.2	9.4	1.2
Primary metal refining	4.7	3.4	-1.3
Other manufacturing	6.7	7.7	1.0
Railroads	6.6	6.4	- .2
Federal government	11.9	12.8	.9
Derivative employment	180.6	214.9	34.3
Nonrail transportation, communications, utilities	10.8	13.1	2.3
Contract Construction	11.0	13.0	2.0
Wholesale and retail trade	48.1	59.3	11.2
Services and finance	41.8	54.0	12.2
State and local government	40.7	44.5	3.8
All other employment	28.2	31.0	2.8
Total Employment	265.7	302.5	36.8

Source: Montana Department of Labor and Industry, Employment Security Division, Montana Employment and Labor Force and unpublished data.

Note: These data have not been adjusted for residence and multiple job holders.

[1]Average for the first ten months of the year.

industries. If the 1974 figure is compared to employment in 1968 and 1969, the increase amounts to only 500 jobs. And, unfortunately, in recent weeks all of the growth, however computed, has been temporarily wiped out by the effects of the decline in the housing market.

Primary metals refining, another of Montana's major manufacturing activities, is estimated to have employed some 1,300 fewer workers in 1974 than in 1970. Much of this loss occurred in Great Falls, with the closure of the Anaconda plant there.

Most of the growth in mining employment (about 600 workers) occurred in the eastern Montana coal fields. Unfortunately, much of this gain may be cancelled by the loss of some 500 to 600 jobs in Butte's underground mines during the next few months. There will be further modest increases in coal mining employment over the next few years.

Derivative Employment

We will analyze the reported increase of 34,000 in derivative employment in greater detail later in the report, but, for now, we will simply outline some of the evidence which we believe suggests that this growth may be overstated or misunderstood and/or temporary. In the first place, a disproportionate share of the increase in derivative jobs may be directly or indirectly associated with the recent prosperity in agriculture. Whether or not this prosperity -- already limited to crop producers -- will continue is open to question.

We suspect also that the large increase in employment does not necessarily mean a large growth in population. We think that many of the new jobs in derivative industries have gone to Montanans -- to young people or working wives. That is, the growth in employment in these industries probably reflects an expanded pool of Montanans willing to work rather than an influx of workers from out of state. The "natural increase" in the labor force -- the excess of young people entering the prime working ages over those retiring -- has greatly enlarged the state's potential work force. Also, there has been a revolution in the working habits of women. More and more females have entered the labor force and many have taken jobs in the trades and services, the industries which have shown the greatest growth in employment. Many of these jobs may be seasonal, part-time, or low paying. The actual increase might be more moderate if employment were converted to full-time equivalent (FTE) positions.

We have made some very rough projections incorporating the "natural increase" in the labor force and the rise in female labor participation. These projections, which are based on preliminary and incomplete data, suggest that the recent increase in employment was just about sufficient to provide jobs for the persons living in Montana during 1970. Obviously, there has been a flow of people in and out of Montana. Although we cannot estimate the numbers going in either direction, our projections suggest that there need not have been an excessive

influx of out-of-staters to fill the new positions available in Montana.

We should note that Montana is fortunate in being able to provide these jobs for its residents. Insofar as many of them have gone to second earners in a family, they have increased family and per capita incomes. Our concern is that some workers may have been forced to settle for part-time, seasonal jobs when they preferred and were qualified for -- and needed -- full-time, higher-paying employment.

We do not want to be misinterpreted. We are not saying that the 1970-74 increases in employment are illusory. Nor do we believe the healthy increases in derivative employment contradict the slow growth in the primary industries. (The relationship between primary and derivative industries is not that precise; both the fifites and sixties saw rising derivative employment accompanying declines in primary industries.) Rather, we simply view the apparent increases in total employment with a degree of skepticism and prefer to wait for further data before making any conclusions. Aside from the coal mining industry, conditions in the primary industries, representing Montana's economic base, do not appear to have changed from the sixties, and the remarkable growth in derivative industries may have been accentuated by some unusual conditions.

Population

As we mentioned earlier, the population data shown in figure 3 are simply estimates and are not as reliable as the

actual count of persons provided by the Census of Population. These estimates are prepared by the Census Bureau which uses a standardized methodology for all states. The procedures may work well for more populous states, but we have reservations about their application to Montana. For example, the annual intercensal population estimates for Montana during the sixties display characteristics which appear contrary to trends in other economic data. Thus, it is our feeling that these figures probably overestimate the increases in population since 1970.

A Closer Look at Some Significant Developments

Because developments during the past few years have been somewhat contradictory and because our analysis of the current situation thus far has been rather brief and general, we present the following section, which deals with certain crucial industries and events which we think are of particular importance to Montana at this time. The choice of industries is fairly obvious: agriculture[1], wood products, mining, and the derivative industries. We conclude with a brief discussion of the implications of inflation and of our assessment of the state's economic outlook on state revenues and expenditures.

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1. Our review of agriculture is cast almost entirely in terms of income, and will therefore be found on pp. in the next chapter below.

Wood Products: Problems in Western Montana

The wood products industry ranks as Montana's leading manufacturing industry and is of overwhelming importance in western Montana. Its growth between 1950 and 1969 (together with that of the University of Montana) kept western Montana moving ahead in terms of increased incomes and expanded employment opportunities. A recent report by the University of Montana's Bureau of Business and Economic Research estimated that as much as 43 per cent of employment and 51 per cent of income in eight western Montana counties are directly or indirectly dependent upon timber activities.

In spite of some rather severe cyclical fluctuations, the wood products industry until recently had recorded a significant increase in employment since 1969 -- from an average of 8,900 wage and salary workers that year to 9,700 in 1973. (We use 1969 as a benchmark in this discussion because 1970 was a very poor year for the industry and therefore is not a good choice for comparisons. Likewise, 1973 represents the recent high mark, with employment declining in 1974. The data are from the Employment Security Division.)

The past five years have seen considerable change and turmoil within the industry. A number of small sawmills have ceased operation permanently, and more may do so; it is increasingly difficult for such plants to compete. Two new particleboard plants represent progress toward greater utilization of the forest resource. A large new plywood plant is

operating in the Missoula area. The pulp and paper mill at Missoula has been given permission to expand its operation; however, there has been no announcement as to when construction might begin.

Accompanying the movement toward greater product diversity have been changes in ownership which have accelerated a trend towards integrated operations and large corporate ownership. The era of the small independent operation is almost over; the Montana industry today consists chiefly of large corporations with a combination of operations designed to better utilize the forest resource and with the financial ability to provide the technology necessary to compete in today's markets.

Questions with respect to the management of national forest lands and the volume of timber harvested have been issues of primary concern to the industry, the public, and the U.S. Forest Service throughout this period. In 1969, about 60 per cent of the timber used by Montana producers came from national forests. Since that year, changes in Forest Service policies and practices have resulted in a reduction in the volume of national forest timber sales which has created considerable concern in the industry. Part of the decline in the volume of Forest Service timber harvested has been offset by increased cutting on private lands. In the meantime, the volume of Forest Service timber under contract has declined substantially -- from 2.0 billion board feet in 1970 to 1.3 billion in 1974. The Forest Service says that new regulations governing sale preparation mean that increased personnel are needed to insure

that the annual allowable cut can be offered for sale each year. Both the industry and the agency have requested federal funds for more intensive forest management. While some of the most productive timber growing areas are in other parts of the United States, the best sites in Montana will compare favorably with other regions and should be eligible for such investment, if and when Congress is willing to appropriate money for that purpose.

Wood products is a volatile industry, strongly affected by changes in housing construction. Thus, since 1969 the industry has experienced two downturns, one which began in late 1969 and lasted till early 1971, and the current, sharp decline which began in late 1974. With U.S. housing starts far below a year ago, the timber industry in Montana currently is in difficult circumstances. The full extent of the decline is difficult to determine. According to the Employment Security Division, employment in the industry fell off by about 2,000 workers between September 15 and October 15. The October estimate of 7,900 workers was 2,400 below the seasonal peak of 10,300 in August and was the lowest October figure since 1961.

We know that there have been further layoffs since mid-October, but we do not know how many; nor do we know how many workers have been affected by shortened work weeks. This type of concealed unemployment -- or underemployment -- does not show up in labor force figures.

Western Montana will feel the pinch of reduced employment and incomes in the industry this winter. Unfortunately, there appear to be few prospects for offsetting losses in wood products employment. In the Missoula area, construction of the paper mill addition would be a real boost if it gets under way. Some experts think there may be an improvement in housing starts by the middle of next year. If a recovery does begin then, it may be late in the year before western Montana lumber and plywood plants feel the effects.

It is worth noting that when the housing market does improve, the pressure for increased Forest Service sales will rise along with lumber production, and the issue of Forest Service policies and financing may again be front page news.

Mining: Some Good News, Some Bad News

Table 3 shows that employment in the mining industry, long a mainstay of Montana's economy, increased by 800 between 1970 and 1974. About 200 of these additional jobs were in metal mining, which primarily consists of the operations in and around Butte. These figures do not reflect the announced reduction of 500 to 600 underground miners. It has been fairly common knowledge that underground mining has become relatively more costly. So, these reductions do not come as a real surprise. It is unfortunate that they are scheduled for this winter, however, as it cannot help but add to the problems caused by the depressed conditions in the wood products and other industries.

Recent events suggest a softening in the copper market and this may lead to further declines in Montana's mining activity. We believe these vacillations are simply a continuation of past cycles in the worldwide demand and prices of raw materials. It would not suprise us to see a general decline in mineral prices (excluding coal, gold, and silver, which are influenced by some unique factors) similar to that of the early fifties.

Between 1970 and 1974, there were about 600 new jobs due to increased coal mining in southeastern Montana. Most of this coal has been sold to Midwestern utilities on medium and long-term contracts, and it is unlikely that employment in the coal mines will show the same cyclical ups and downs as other types of mining. Thus, we view these positions as being a relatively stable and secure addition to Montana's economic base. We expect a further modest increase in coal mining employment over the next few years.

Derivative Industries: Where the Jobs Are

Most of the increased employment in Montana between 1970 and 1974 occurred in the derivative industries. In this section we will examine the derivative sector in more detail and attempt to outline some of the factors we believe to be behind these trends.

Table 4 shows 1970 and 1974 employment in Montana's derivative industries. These are the same data presented earlier in table 3 except that several of the industries have been subdivided to facilitate a more detailed analysis. Employ-

TABLE 4

Employment in Derivative Industries in Montana
1970 and 1974

(In thousands)

Industry	1970	1974[1]	Change 1970-74
Wholesale trade	9.8	12.2	2.4
Retail trade	38.3	47.1	8.8
Eating and drinking places	10.4	14.4	4.0
All other retail trade	27.9	32.7	4.8
Finance, insurance, and real estate	8.1	10.2	2.1
Services	33.7	43.8	10.1
Hotels, motels	4.0	6.3	2.3
All other services	29.7	37.5	7.8
State and local government	40.7	44.5	3.8
Nonrail transportation, communication, and public utilities	10.8	13.1	2.3
Contract construction	11.0	13.0	2.0
All other employment	28.2	31.0	2.8
Total derivative employment	180.6	214.9	34.3

Source: Montana Department of Labor and Industry, Employment Security Division, Montana Employment and Labor Force and unpublished data.

[1]Average for the first ten months of the year.

ment increased between 1970 and 1974 in each of the derivative industries, but retail trade and the services accounted for a disproportionate share of the growth. In fact, the combined growth of 18,900 workers in these two industries represents 55 per cent of the total rise of 34,300 jobs in all derivative industries.

Before turning to our analysis, we would like to put the jobs in derivative industries into proper perspective by examining their average earnings as compared to jobs in the primary industries. Table 5 presents the average 1973 earnings for wage and salary workers in selected primary and derivative industries. These figures suggest that, in general, workers in derivative industries earn less than their counterparts in the primary industries. The highest earnings are the $11,050 per year in mining and $12,250 per year for federal government employees. While the average for all manufacturing is significantly lower, at $8,960 per year, certain industries such as primary metal refining and paper production pay well above this figure. On the other hand, annual earnings in wholesale and retail trade and the services, where over 40 per cent of derivative workers are concentrated and where most of the recent growth has occurred, averaged only $5,880 and $4,920 per year, respectively. It should be noted that the figures in table 5 represent annual earnings for people who work all year; thus, in an industry such as construction, where many workers suffer some seasonal unemployment, actual earnings may be considerably lower.

TABLE 5

Annual Earnings of Wage and Salary Workers
in Selected Montana Industries
1973

Industry	Earnings
Mining	$11,050
Manufacturing	8,960
Federal government	12,250
Construction	10,070
Nonrail transportatation, communiciation, and public utilities	9,330
Wholesale and retail trade	5,880
Finance, insurance, and real estate	7,200
Services	4,920
State and local government	7,090

Sources: Montana Department of Labor and Industry, Employment Security Division and U.S. Department of Commerce, Survey of Current Business (August 1974), table 54.

Earlier in this report we stated that the rapid growth in derivative employment since 1970 may not represent sustainable economic growth. We would like to discuss our reasons for saying this but, first, we must reiterate that these are not hard and fast conclusions. The data are incomplete and the time period too short to establish long-run trends. Further evidence (when it becomes available) may be contradictory or may suggest a different underlying phenomenon. In short, the following paragraphs are our best guesses as to the meaning of the current data; but they are just guesses and may be modified in light of further information.

State and Local Government: A Trend Toward Slower Growth

During the sixties, state and local government was the fastest growing derivative industry in Montana. Employment continued to increase between 1970 and 1974, but at a slower rate. We believe the rapid rise in state and local government during the sixties may be largely attributed to the post-war baby boom. A large proportion of state and local government employees, are directly associated with education. The number of births during the late forties, fifties, and early sixties led inevitably to increased demands on education. The recent decline in the birth rate suggests that there will be fewer children entering school and less pressure on state and local governments to expand these facilities.

Implications of Inflation on State Revenues and Expenditures

From a fiscal point of view, state governments -- including Montana's -- tend to benefit from inflation, particularly during the early stages of inflation. The reason for this phenomenon is obvious. State governments budget at one price level and collect the taxes to finance the budget at higher price levels. With given tax rates, tax collections, especially income and excise tax collections, tend to rise as the price level and money incomes rise, while expenditures tend to lag. Wages and salaries of government employees are examples of expenditures that are especially likely to lag behind rises in the price level. Wage and salary rates tend to be fixed in money terms for a year and often for two years in the case of biennial budgets.

In a way, Montana has been fortunate to have such heavy reliance on the income tax. An income tax with progressive rates such as we have in Montana brings increased revenue in two ways as the price level rises. First, state revenue rises with inflation merely because of the concurrent rise in money incomes. Second, with a progressive rate structure, the effective tax rate rises as income recipients move into higher rate brackets. Economists refer to such relationships as "built-in flexibility." (It should be noted that local governments, heavily dependent on the property tax, do not enjoy such flexibility.)

We should be aware that the built-in flexibility inherent in the Montana tax structure represents a mixed blessing and that in the long run it may be no blessing at all. There are several reasons for this statement:

1. State government gains through such built-in flexibility are likely to be transitory and illusory. Budget surpluses often disappear quickly as a result of public and political pressure for increasing state expenditures and/or reducing tax rates. Such actions are likely to be in conflict with fiscal pragmatism and the public interest.

2. After a while, the prices that the state government pays for goods and services will rise and any initial benefits from inflation will disappear. This will happen rather quickly in the case of commodities, but somewhat later in the case of wages and salaries for public employees as state agencies find it necessary to keep salaries competitive with the private sector. So, state government will soon discover that its "windfall revenues" are eroded and that its revenues in real terms are declining.

3. While state government as a fiscal entity may gain from the built-in flexibility in the tax system, the public may not and probably will not. During inflation, the state income tax structure dictates higher effective income tax rates. But if the income growth rate in the state is lower than the inflation rate, the ability of the public to pay taxes declines when measured in real terms.

Montana's state government windfall revenue gains from inflation may soon be a thing of the past. The large increases in revenue collections in the past two years are not likely to be repeated. In real terms, tax collections may show very modest increases in the next few years.

Tourism: A Major Contributor to Increased Employment

About one-third of the increase in retail trade and service employment between 1970 and 1974 occurred in eating and drinking places and in hotels and motels. Although they also serve local people, these businesses traditionally have been used to represent developments in Montana's tourist industry. The substantial increases in employment appear to reflect a prosperous and growing tourist industry. Certainly 1974, perhaps with the help of Spokane's Expo, was a good year for the travel business. Nevertheless, we are concerned that there may have been some overbuilding in these activities, particularly in motels, and that a decline in travel due to economic conditions and/or fuel availability and cost may bring hard times to the travel industry. According to Employment Security Division figures, another travel-related group -- automobile dealers and gas stations -- reduced its average annual employment from 9,300 in 1973 to 8,600 during the first ten months of 1974.

Agricultural Prosperity: Good for Main Street

The recent prosperity in Montana's farms and ranches may have contributed to the rapid rise in derivative employment. New jobs may have been created in the trades and services as the net influx of dollars due to increased agricultural receipts were spent and respent within the state. In the interest of brevity, we have not presented the year-by-year data. However, they show that the increases in derivative employment were greater during and after 1972 than before this date. This correlates with the upturn in agriculture and we cannot help but conclude that the two are somehow related.

Working Women

There has been a revolution during recent years in the attitudes of women, especially wives and mothers, toward working outside the home. More and more females are entering the labor force and actively seeking employment. The extent and speed of this development is demonstrated by the national labor force participation rates shown in table 6. These figures show the per cent of the population in each age-sex group in the labor force. Labor force participation rates vary slightly from one year to the next, but usually not more than one or two percentage points. Notice, however, the rapid rise in rates between 1970 and 1973 for females under 34 years of age. These large increases (several are almost 5 per cent) are remarkable for a period as short as three years. We do not have comparable data for working women in Montana,

TABLE 6

Civilian Labor Force Participation Rates, by Age and Sex, in the United States 1970 and 1973

(In Percentages)

Age Group	Males		Females	
	1970	1973	1970	1973
Total, 16 years and over	80.6	79.5	43.4	44.7
16 and 17 years	47.5	50.5	34.9	39.1
18 and 19 years	69.9	73.2	53.7	57.0
20 to 24 years	86.6	86.8	57.8	61.2
25 to 34 years	96.6	95.9	45.0	50.2
35 to 44 years	97.0	96.3	51.1	53.3
45 to 54 years	94.3	93.0	54.4	53.7
55 to 64 years	83.0	78.3	43.0	41.1
65 years and over	26.8	22.8	9.7	8.9

Source: U. S. Department of Labor, 1974 Manpower Report of the President, table A-2.

but it would be illogical to think that the same changes have not occurred here.

Unfortunately, neither do we have employment figures by sex for years since 1970. Table 7, however, indicates that of the 26,159 new workers added between 1960 and 1970 in trade, services, and finance -- those industries where women traditionally have worked -- about two-thirds (17,727) were female.

TABLE 7

Employment by Sex in Selected Montana Industries, 1960 and 1970

Industry	Employment 1960[1]	Employment 1970[2]	Change in Employment 1960-70	Distribution of Employment (Percent) 1960	Distribution of Employment (Percent) 1970
Wholesale trade	7,465	9,360	1,895	100.0	100.0
Male	6,239	7,670	1,431	83.6	81.9
Female	1,226	1,690	464	16.4	18.1
Retail trade	39,629	45,165	5,536	100.0	100.0
Male	22,775	23,468	693	57.5	52.0
Female	16,854	21,697	4,843	42.5	48.0
Finance, insurance and real estate	8,035	9,546	1,511	100.0	100.0
Male	4,369	4,938	569	54.4	51.7
Female	3,666	4,608	942	45.6	48.3
Services[3]	51,451	68,668	17,217	100.0	100.0
Male	20,374	26,113	5,739	39.6	38.0
Female	31,077	42,555	11,478	60.4	62.0
All trade, finance, and service industries, total	106,580	132,739	26,159	100.0	100.0
Male	53,757	62,189	8,432	50.4	46.9
Female	52,823	70,550	17,727	49.6	53.1

Sources: U.S. Bureau of the Census, U.S. Census of Population: 1960, Detailed Characteristics, Montana, table 129; and indem, U.S. Census of Population: 1970, Detailed Characteristics, Montana, table 186.

1-Persons fourteen years of age and older.

2-Persons sixteen years of age and older.

3-Includes business and repair services, personal services, entertainment and recreation services, and professional and related services.

Since the trend toward more women working has continued since 1970, we feel safe in assuming that many of the new jobs in the trade and service industries have been filled by female workers.

Perhaps the greatest significance of this development is the apparent addition of a good many second earners in Montana families; obviously higher labor participation rates and more earners per family accelerate the growth of both per capita and family incomes. At the same time, when the rather impressive increase in the number of new jobs in these industries is cited, it is well to remember that many of them are not jobs suitable for heads of families.

Average Weekly Hours

Derivative workers, on the average, have significantly lower annual earnings than do workers in primary industries. This may be partly due to the fact that they tend to work fewer hours per week. Table 8 presents the average weekly hours for wage and salary workers in selected Montana industries between 1969 and 1973. Notice that the employees in the two largest derivative industries -- wholesale and retail trade and the services -- tend to work the fewest hours per week. This suggests to us that simply looking at the number of jobs may overstate the growth in these industries. If employment were converted to full-time equivalents -- a 40-hour week -- the increases would be more moderate. In the trade and service industries, for example, the increase in full-time

TABLE 8

Average Weekly Hours in Private Non-Agricultural Industries, Montana, 1969-73

Industry	1969	1970	1971	1972	1973
Manufacturing	40.3	40.0	39.8	40.8	40.2
Mining	42.0	41.3	43.1	41.7	41.2
Contract construction	38.3	37.0	36.8	37.3	37.6
Transportation and public utilities	41.7	41.6	41.2	41.5	40.8
Wholesale and retail trade	37.6	37.7	36.0	35.4	35.7
Finance, insurance, and real estate	35.9	37.2	37.3	36.3	37.0
Services	35.1	34.8	34.6	33.5	33.2

Source: Montana Department of Labor and Industry, Employment Security Division, Montana Labor Market, Supplement II and Montana Employment and Labor Force, table X.

job equivalents appears to have been about 14,600, in contrast of the 21,300 new jobs actually reported.

Also, it is interesting to note the general downward trend in weekly hours in wholesale and retail trade and especially in the services, where there was a decline of over two hours per week between 1969 and 1973. This correlates with the previous observations concerning working women; it is just what we would expect the figures to show if there were an increasing number of working wives and mothers, for whom part-time jobs may be most convenient.

Personal Income

Introduction

Much additional light on the overall economic situation -- both currently and for the longer run -- in Montana is obtained through an analysis of personal income. After sketching the economic profile of the state, we shall summarize recent economic developments in this framework. This will provide a background for consideration of the long term business outlook as seen by the U.S. Department of Commerce.

Personal income is the most comprehensive measure of economic activity and buying power that is presently available on a state-by-state basis. This measure permits the direct comparison of a state's economic profile with that of the U.S. or of adjoining states, and allows the comparison of rates of income growth in a state relative to national growth rates. Thus it can be used to quantify the extent to which a region shares in national economic growth, and how it fares relative to other sections of the nation in business cycles.

Total personal income consists of private and government wage and salary payments in cash and in kind, other labor income, farm and non-farm proprietors' income, interest, net rents, dividends, and transfer payments, (net personal contributions for social insurance). It is usually mearsured before the deduction of taxes on income and other personal taxes. Most personal income series are reported in current dollars; that is, no adjustment is made to take out the effect of inflation.

Per capita personal income is total personal income divided by total population; i.e., it is the average personal income per person in the state. Per capita personal income is the best currently available measure of average buying power in a state. It is also a (very rough) measure of average welfare though, of course, it tells us nothing about income distribution among the families in a state.

In this analysis and in the accompanying text tables, we shall distinguish thirteen major industrial and other components of total personal income. These components, listed in order of diminishing 1969-73 per cent change in the nation, comprise farm income, transfers, and personal income earned through work in state and local government; the transportation-communication-public utilities group, construction, services, and mining; property income; and personal earnings in the finance-insurance-real estate group, federal civilian employment, wholesale and retail trade, manufacturing, and the armed forces.

Income in the major lines of business mentioned consists of total labor and proprietors' earnings. The major items included are wage and salary payments, other labor income, and the net income of unincorporated business.

Our measure thus gives us more complete coverage of activity in lines characterized by small business, like agriculture, trade and service, than it does of predominantly corporate lines like the public utilities. A more comprehensive

measure, if one were available at the state level, would show the corporate-type industries bulking larger in the total. It would also show them to vary more over the business cycle, and to be growing a little less fast, because it would include profits and profits have these two characteristics.

Economic Profile of Montana

In 1973, total personal income in Montana was $3.4 billion, or somewhat more than three-tenths of one per cent of the U.S. total. Per capita income (total personal income divided by total population) in Montana was $4,682 in 1973; 7 per cent or $359 under the United States' average of $5,041. Among the 50 states, Montana ranked 33rd in per capita income.

Except for two large and important industries, the total personal income profile of Montana is very similar to that of the U.S. on a whole. (See Table 1). However, farming and forestry accounted for nearly 20 per cent of Montana's income and only 4 per cent of the U.S. total.

Location Quotients

The ratio of these two figures, 20%/4% or 5, is the so-called location quotient of agriculture in Montana. The quotient for agriculture in this state seems to have increased since the late sixties, but this probably means only that the particular lines of farming and ranching we specialize in have moved up nationally (and here, too) more than has agriculture as a whole.

Even in the more normal year of 1972, though, farming directly accounted for about 16 per cent of the state's total personal income as against only 3½ per cent of the U.S. total. Non-farm income in the nation has grown much faster than farm income during the post-war years. The lesser importance of non-farm sources in Montana has meant that the state has gained less than the country at large from this fast growth, and has tended to fall behind in economic development and expansion.

Even off the farm, the independent "sole proprietor" or small businessman is more important in the economy of Montana than in most other states, though non-farm proprietors' income has not increased in relative importance lately as farmers' has.

The strength of this sturdy, self-reliant breed in the social fabric of our state may be one of the reasons why a certain conservatism of outlook has come to be associated with the Montana way of life.

Wage and salary earners on the other hand, are comparatively less important in the Montana picture.

The role of transfer payments in Montana is somewhat greater than in the rest of the U.S. -- perhaps reflecting the magnitude of unemployment and other benefits to the disadvantaged but the difference between Montana and the other states seems to have been decreasing.

This state's major economic activities are ranked according to our degree of specialization in the accompanying table.[1]

Industries	Location Quotients
Agriculture	4.7
Mining	3.1
Total federal	1.2
Transportation, communication, utilities	1.2
State and local government	1.1
Wholesale and retail	.9
Services	.8
Finance, real estate	.7
Manufacturing	.4

The top ranking trio would be clearly classed as primary industries. The fourth is mixed and the fifth is from Montana's standpoint probably best categorized as derivative; the others (except certain key branches of manufacturing) would clearly seem so.

Mining in Montana is a natural result of abundant mineral wealth beneath the surface. It is three times more important here because our state is three times as blessed as the average state in this respect.

Federal government bulks about one-fourth larger here than

---

1. The highest quotients are generally accompanied by the greatest variability from year to year. This fact casts some doubt on the representativeness of the four-year averages shown.

it does nationally. A sizeable part of the earnings normally come from the military, so that the closing of Glasgow Air Force Base has exerted a temporarily disastrous influence upon the earnings picture. The overall location quotient had been fairly stable for the five-year period as a whole, and it is hoped that this stability will characterize the future.

Transportation's contribution to the total Montana earnings is a little greater than the national average, probably due to the great distances and the consequent greater utilization of rail, truck, and air facilities. The same would apply to communications.

State and local government also account for slightly more of total earnings in Montana than nationwide. There is no clear indication, in the years studied, of any tendency for this to change in either direction.

The remaining industries, in the table all contribute less to earnings in Montana than in other states. Our relative deficiency in trade, services, and finance showed some signs of increasing over the period, as these lines expanded faster elsewhere than here.

Manufacturing

The shortfall in manufacturing was roughly stable; we continued to share less than proportionately in the cyclical swings and special growth pattern that typify this industry division nationwide.

Our principal manufacturing activity is the processing of

the state's raw forest products, and minerals. Lumber products and furniture comprise about a third of the total manufacturing in the state. The potential for further development would appear to be great in this industry. Much of the wood cut in Montana is still shipped out of state for processing. It seems that a much larger lumber processing industry could be encouraged by the State of Montana with a minimum amount of ecological damage.

Other important manufacturing industries in the state include the refining of copper and other primary metals (nearly two-fifths of total manufacturing), food and kindred products (about 15 per cent of total manufacturing), petroleum refining (just under 10 per cent of the total), and printing and publishing (roughly 5 per cent of the manufacturing total).

Mining directly accounts for only about 2 per cent of Montana's total personal income. So far metal mining, mainly copper, has made up about three-fifths and petroleum-natural gas about one-quarter of the mining total. Extensive strip mining of the rich seams of low-sulphur coal in the eastern section of the state has entered upon a stage of growth which is as yet too recent to be appreciated from the statistics we have. Montana must soon decide how rapidly and how extensively these coal beds should be developed.

Aside from agriculture, manufacturing and mining, the per cent distribution of personal income shown in Table 1 is remarkably uniform. No single source differs from the others

by more than three percentage points. In fact, most of them are within one percentage point of each other. With few exceptions, these industries are of the local-service or "derivative" type; income in them is generally believed to depend on activity in the "export industries."

Export-Service Industries

The importance of farming and forestry to Montana is explained by the relationship between export and service industries. Changes in income in many service-type industries are directly influenced by growth, or lack of growth, in basic or export industries. Basic industries are almost always those that produce to meet the demands originating outside the state; that is, the product of the industry is "exported."

Because of this, output in these industries changes in response to increased or decreased national or international demand for their products.

Agriculture and forest products are by far the most important export industries in Montana, as most of their production is shipped out of state. In addition, recreation and, to some extent, retirement are also basic industries in the state. While the "products" of these industries are not "exported", the people coming to enjoy Montana's outstanding scenic beauty, clean air, and wide-open crime-free space, bring the money to support themselves from outside the state. Thus, these industries serve the same economic functions as other classic export industries such as manufacturing, mining and farming.

When demand for and income in the export industries is growing rapidly, there tend to be rapid increases in local service-type industries as well. When people who work in or receive their income from the export industries grow more prosperous, they buy more services. In addition, the basic industries themselves demand more services as their business expands. Through the workings of the income multiplier, these demands spread throughout the economy several times over.

The major service industries that benefit from increased export demand are: wholesale and retail trade, the financial-insurance-real estate group, local service, the transportation-communication-public utilities group, state and local government (through both higher tax and other receipts and through increased demand for their services such as schooling), police and fire protection. Construction sometimes acts like an export industry -- as when it is federally initiated and financed or when it consists of the opening of new mines. Oftentimes, it acts like a local service industry; the building of new homes is an example.

Trends Over the Cycle Just Ended

In order to gain a feel for long-term growth, the historical summary that follows will distinguish three major time periods. First, we shall consider the recent evidence on secular trends as seen in economic developments between the two most recent peak years in the national business cycle, 1969

and 1973. We shall then take a longer view, covering economic developments in the state from 1959 to 1969 -- both peak years in the national business cycle. Finally, we shall see how the state has fared during the current national recession. The seasonally adjusted personal income data for the fourth quarters of 1973 and 1974 will frame this analysis.

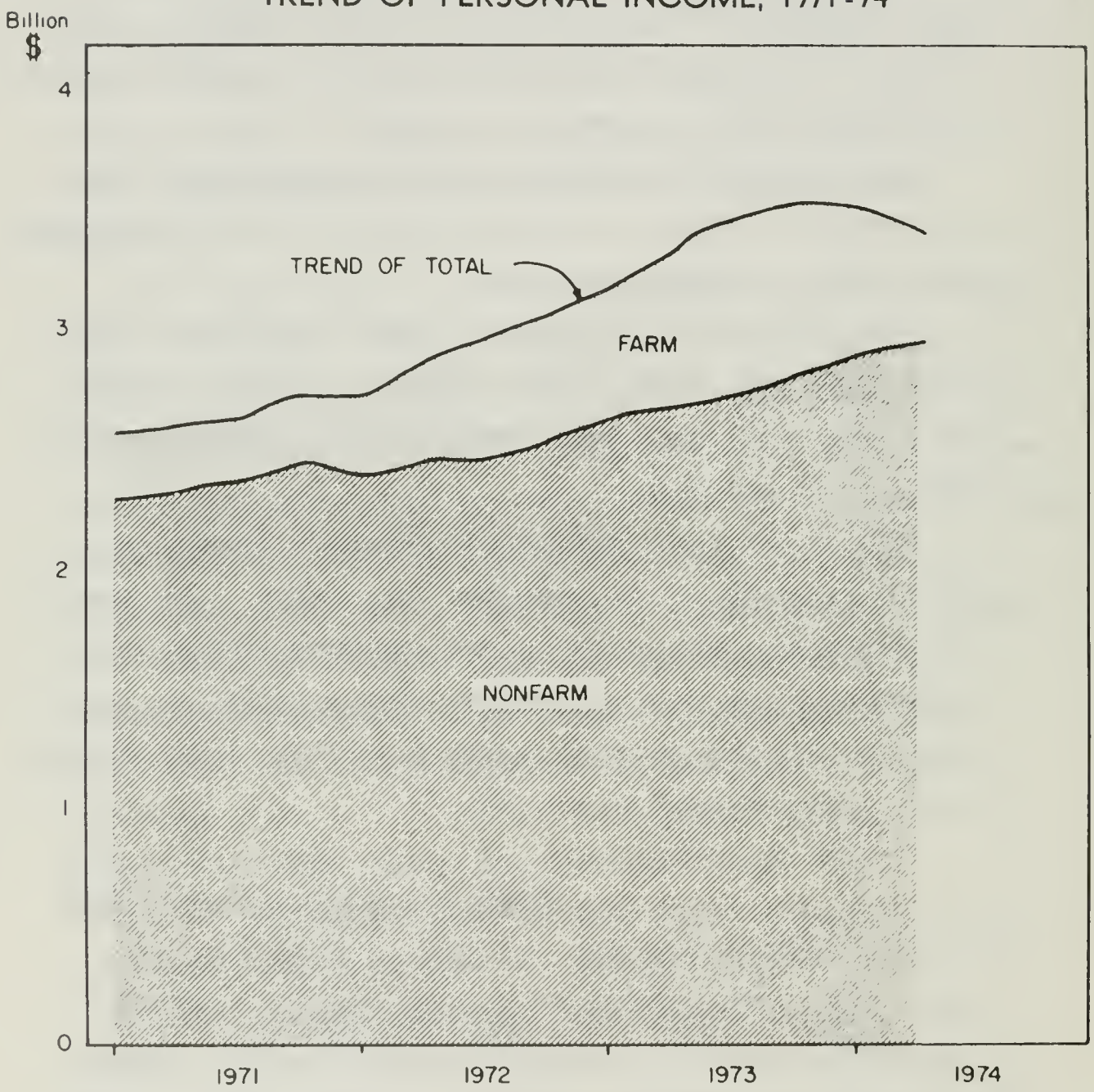
The personal income data for all of these periods will be presented in terms of current prices; that is, no adjustment will be made for price inflation.

From 1969 to 1973 -- the most recent peak years in the nation's business cycle -- total personal income in Montana rose 53 per cent. This gain compares with a national average advance of 41 per cent.

Much of the recent strength in Montana's economy is directly traceable to the important farm sector. (See Chart). Farm income here spurted by 145 per cent from 1969 to 1973; a rise well above the national average advance of 100 per cent. Meanwhile, non-farm personal income in both the state and the nation expanded about 40 per cent.

Part of the income gains, of course, were wiped out by price increases, which were rapid during most of the period.

No price deflators are available on a state-by-state basis. Earlier studies have indicated, however, that the national deflators are passable proxies for price changes in some individual states over relatively short periods of times. The consumption patterns called for by the "Montana way of life" are probably not at all well represented by the national


TREND OF PERSONAL INCOME, 1971-74
Billion $
4
3
2
1
0
TREND OF TOTAL
FARM
NONFARM
1971
1972
1973
1974

averages, however, and the cost of consumer services in the state is much less subject to national influences than is the cost of physical commodities.

Nationally, consumer prices as measured by the implicit price deflator for personal consumption expenditures rose more than one-sixth from 1969 to 1973. If the change in Montana had paralleled this, about 30 per cent of the gain in personal income would have represented price increases and 70 per cent would have reflected an increase in real purchasing power. Real personal income in Montana would then have risen about one-third over this four-year period. This compares with a real increase for the nation of less than one-fourth.

As noted in the preceding section, population is said to have grown moderately in the state after having been little changed over the preceding decade. Sample data and other calculations suggest that the gain in the state from 1969 to 1973 roughly matched that of the nation.

Comparisons with Other States

During this period, Montana ranked thirteenth among the states in terms of personal income growth. Income grew faster only in Nebraska and the Dakotas and in Arizona, Florida, Colorado, Arkansas, Idaho, Alaska, Iowa, Mississippi and Nevada. Many of these fast-growing states have much in common with Montana. In particular, many are economically small in absolute total of personal income and population. Many are predominantly rural. In economic profile, the thirteen that did best in this period are typically more dependent than the average

on farming, recreation-retirement, mining, construction and federal payrolls. In those where agriculture is not unusually important, recreation-retirement is. While the latter does not bulk nearly as large in Montana's business situation as it does in Arizona, Florida and Nevada, it is a well-regarded and growing influence here.

Agriculture: Exerting a Strong Influence on the Economy

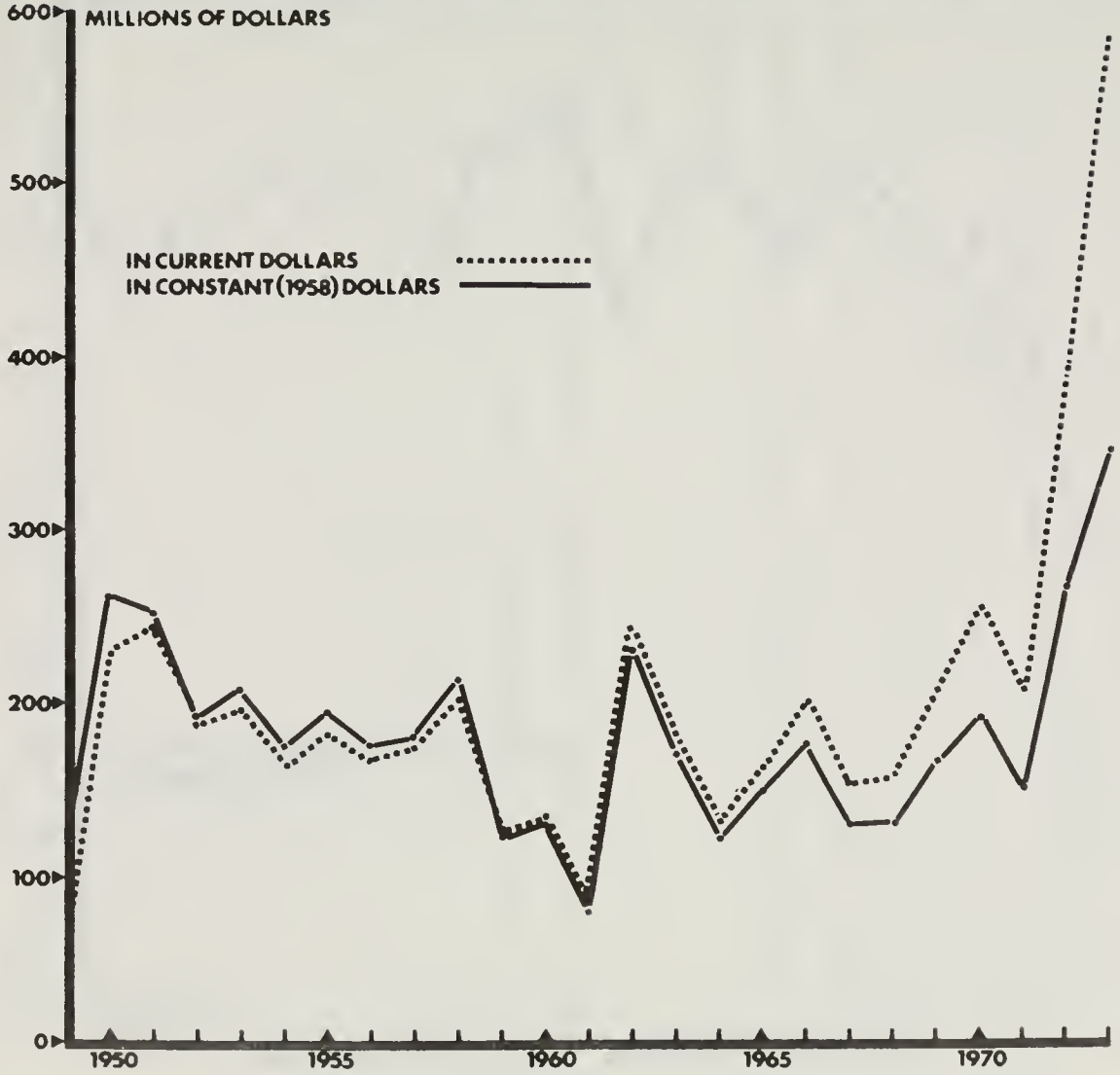
The most significant feature of the Montana economy in recent years has been the unprecedented agricultural prosperity in 1972 and 1973 (see figures 4 and 5). Total net farm income in 1972 was 94 per cent above the post-World War II average; in 1973, it was 188 per cent above the post-war average. On a per farm basis, the comparison is even more dramatic. In 1972, net income per farm exceeded the post-war average by 126 per cent and in 1973 by 242 per cent.

Even after adjustment for changes in price levels, the gains in farm income were large. In 1972, total net farm income for the state in real terms was 47 per cent above the post-war average. So, all in all, 1972 and 1973 were extremely prosperous years for most Montana farmers and ranchers, and for many of the businesses serving them.

Agriculture is largely responsible for the modest increase in Montana's overall economic fortunes. In both 1972 and 1973, the state's per capita income increased more than that for the nation as a whole. Montana's increase was 10.4 per cent for 1972 and 14.7 per cent for 1973, compared to 8.4 per cent

FIGURE 4

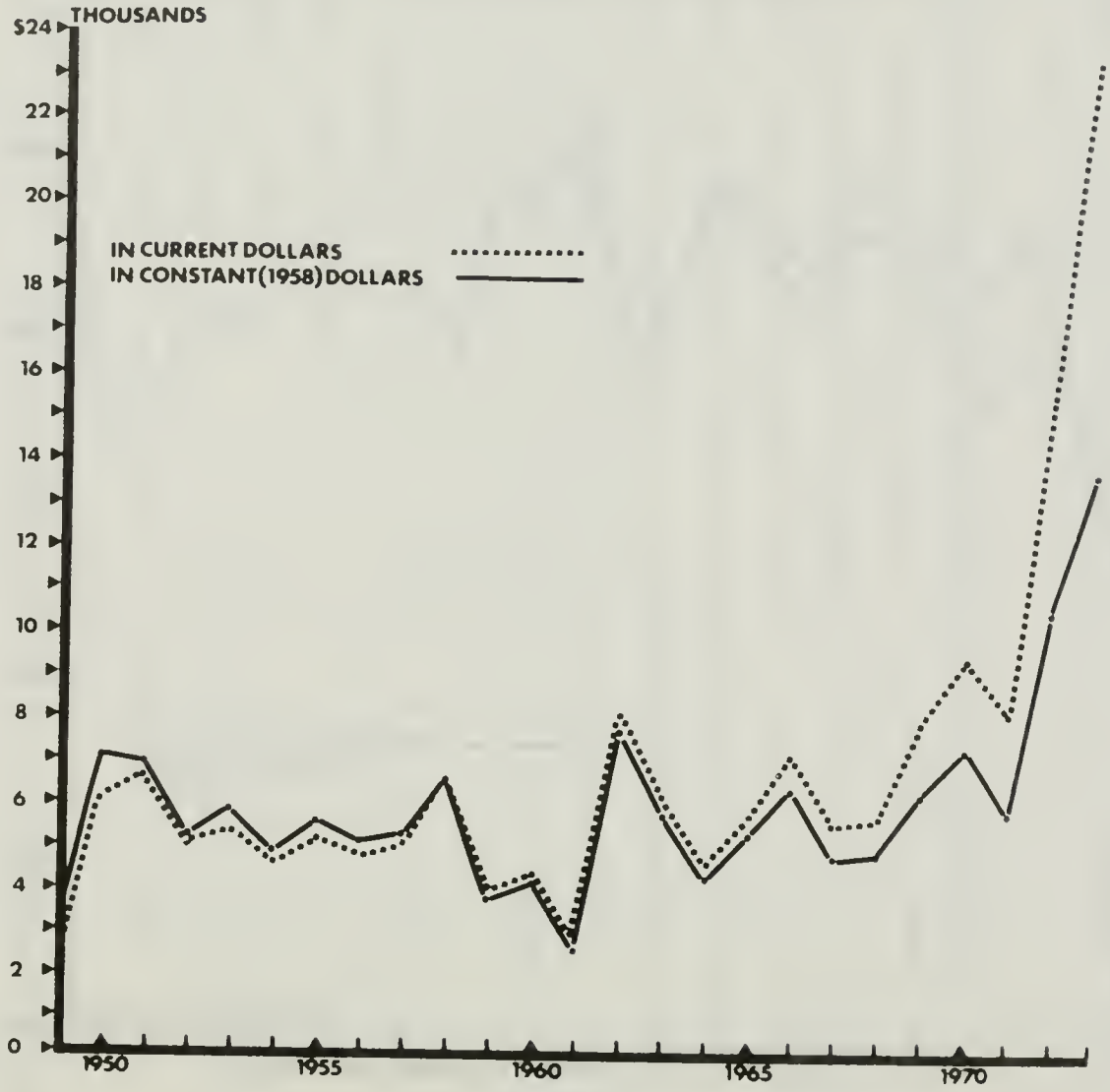
TOTAL NET FARM INCOME, MONTANA, 1949 - 1973



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis. Prices adjusted by U.S. Department of Agriculture, Index of Prices Paid by Farmers for all Commodities and Services, Interest, Taxes, and Wage Rates.

FIGURE 5

NET INCOME PER FARM, MONTANA, 1949-1973



SOURCE U S Department of Commerce. Bureau of Economic Analysis
Prices adjusted by U S Department of Agriculture Index of Prices Paid by Farmers for all Commodities and Services. Interest Taxes and Wage Rates

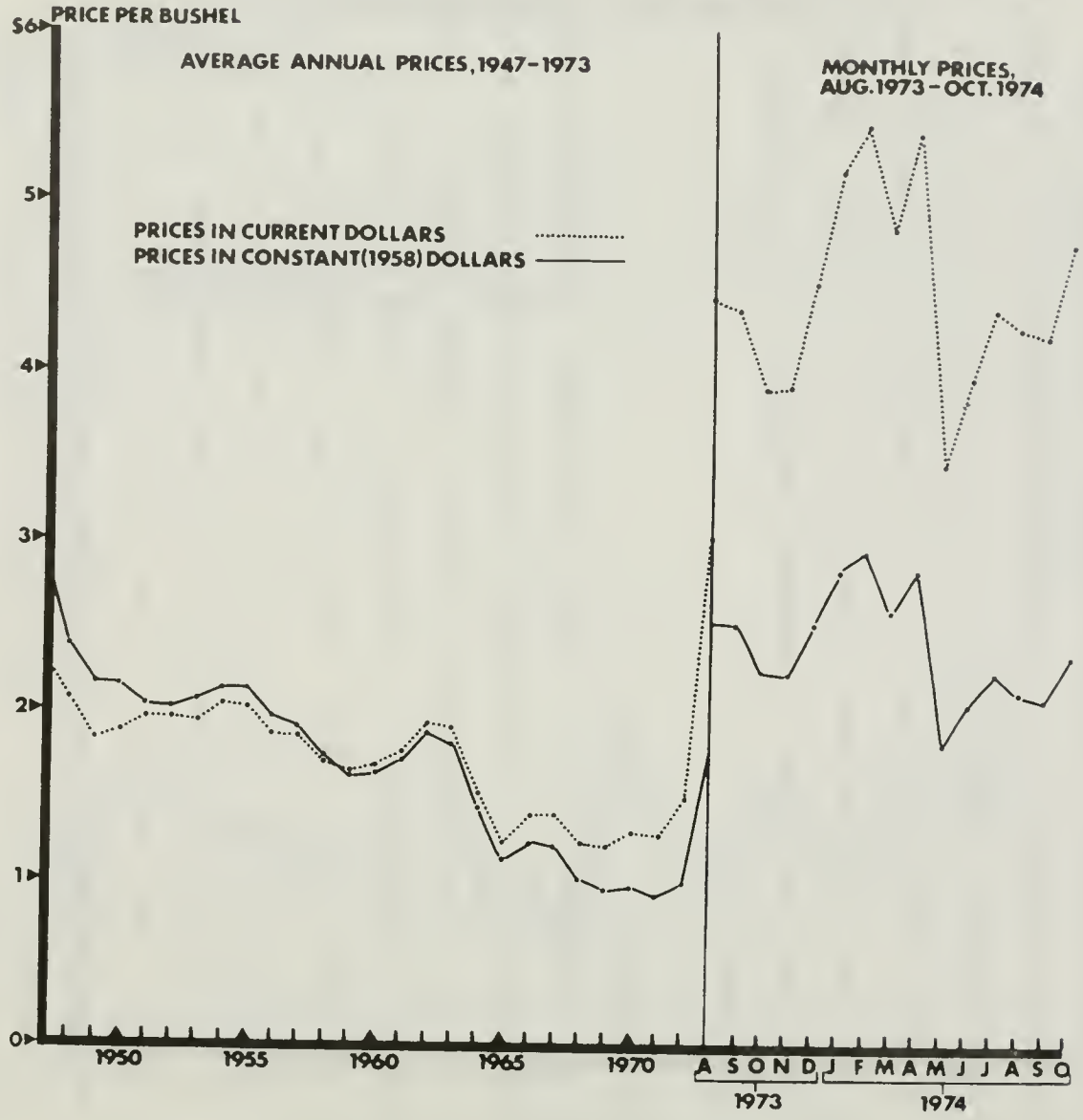
and 10.8 per cent respectively for the United States as a whole. But Montana's improvement was due largely to changes in farm income. Of the total dollar increase of $749 million in personal income between 1971 and 1973, $387 million or 52 per cent went to persons engaged in agriculture. Farm income increased by over two-thirds (68.5 per cent) between 1971 and 1972, compared to 10.3 per cent for the non-farm figure; between 1972 and 1973 the comparable increases were 44.4 and 10.4 per cent respectively. All of these figures come from the Bureau of Economic Analysis, U.S. Department of Commerce.

Farm Prices

The reason for the recent improvement in Montana's agricultural fortunes lies mainly in the dramatic increase in farm product prices during 1972 and 1973 (figures 6 and 7). Farm product prices began to rise rapidly in 1972 and the rise accelerated during 1973. Montana farm product prices in the aggregate rose by about one-third during 1972 and by 44 per cent during 1973. Since grain (largely wheat) and cattle and calves constitute about 85 per cent of Montana's farm income, most of the rise in overall farm product prices was due to the dramatic rise in wheat and beef cattle prices. Average Montana wheat prices rose from $1.40 per bushel in August 1972 to $4.42 a year later and to $5.45 in early 1974. Montana beef cattle increased from $34.50 per hundredweight in August 1972 to $55.30 in August 1973.

FIGURE 6

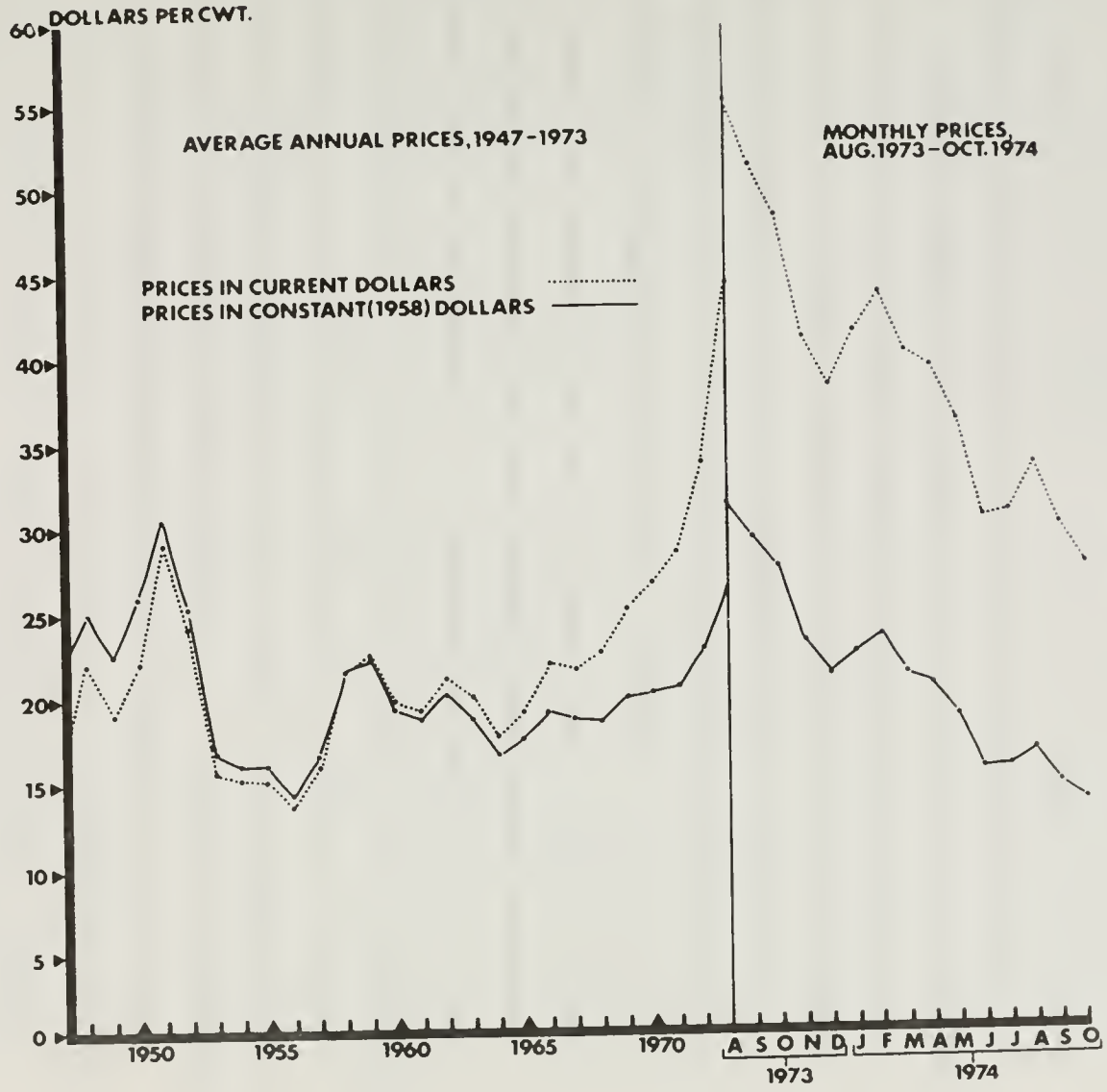
WHEAT PRICES RECEIVED BY MONTANA FARMERS, 1947-1974



SOURCE. Montana Crop and Livestock Reporting Service. Prices adjusted by U S Department of Agriculture Index of Prices Paid by Farmers for all Commodities and Services Interest, Taxes and Wage Rates

FIGURE 7

BEEF CATTLE PRICES RECEIVED BY MONTANA FARMERS, 1947-1974



SOURCE. Montana Crop and Livestock Reporting Service. Prices adjusted by U.S. Department of Agriculture, Index of Prices Paid by Farmers for all Commodities and Services, Interest, Taxes, and Wage Rates.

Montana farm product prices have already softened considerably since the high point in 1973. The index of prices for all Montana farm products fell 22 per cent between August 1973 and October 1974. Wheat prices, although still strong, are currently (October 1974) 13 per cent below their recent high. The prices of beef cattle and calves have declined precipitously from their 1973 peaks. In October 1974, average Montana beef cattle prices were 50 per cent below the August 1973 high. (Montana Crop and Livestock Reporting Service.)

It appears that 1974 Montana gross farm income in current dollar terms will be about as high as in 1973. U.S. Department of Agriculture estimates indicate that during the first nine months of 1974, cash receipts from the marketing of crops were about 34 per cent higher than for the same period in 1973. Cash receipts from the marketing of livestock during January-September 1974 were about 15 per cent below the same period in 1973. On balance, total farm marketings in 1974 should at least equal those in 1973. Net farm income, however, will probably be lower. In terms of current dollars, net farm income for the state in 1974 should approximate the $394 million in 1972.

The Farm Outlook to 1977

What will happen to the Montana farm economy over the next two years or so? This is an important question for Montana because of the vital role that agriculture currently plays in the economy of the state. The farm sector provided about a

fifth of Montana's personal income in 1973 and almost a sixth in 1972. If farm income deteriorates during the next two years, the general economy of the state will suffer. As we noted earlier, even with the income gains brought about largely by agriculture during 1972-73, Montana has been suffering a decline in real income per person since the middle of 1973.

Montana's economic fortunes over the next two years hinge to a large extent on what happens to wheat and cattle prices. Wheat prices are still close to the 1973 peak. But how long can they stay there? Wheat prices have always been extremely volatile, moving up during periods of war and international inflation and subsiding when such conditions recede. Variable weather conditions add to price volatility. Combinations of inflation and recession now characterize almost the whole of the industrialized world. Under these conditions, it seems unlikely that the rampant international demand for grain that existed in 1973-74 will continue for long. If weather conditions in the United States and other grain growing countries turn out to be more or less normal in 1975, wheat prices could decline considerably. In any event, it appears certain that the current level of wheat prices cannot be maintained indefinitely. Whether the break comes in 1975 or later is open to question.

While wheat prices are high, cattle prices are low. Montana beef cattle prices in real terms (i.e., adjusted for changes in the pruchasing power of the dollar) are lower than they have been since the 1930s. This circumstance results largely

from the cattle cycle. Cattle numbers in the United States have been expanding since 1967. From 1967 to the middle of 1973, beef cattle prices rose steadily. Normally, a contraction in cattle numbers begins to take place when prices fall. The heavy marketing of cattle in 1974 points to such a contraction. Nevertheless, some build-up in cattle numbers is expected for another year or two. This means no contraction in absolute terms until 1976 or 1977. Until that time, beef cattle prices are likely to remain more or less depressed. There may be some improvement in beef cattle prices in 1975, but the improvement is not expected to be great. On balance, the odds seem to favor lower Montana farm product prices during 1975-76.

The condition of agriculture has been a perpetual problem in Montana and will continue to be so. At the same time, this is a problem that neither the Montana state government nor the Montana public can do much about. Most of the forces that determine the destiny of Montana agriculture are either fortuitous or they are external in origin. Montana agriculture is subject to international and national forces that are not generally amenable to state control or modification. Most facets of agricultural policy can only be adjusted at the national or international levels.

But there are some things that the state government can do to assist Montana agriculture:

1. Continue to provide the necessary resources for agricultural research, education, and extension.

2. Consider changes in state tax laws, especially the income tax law, that would eliminate the penalties inflicted on farmers and ranchers by progressive tax rates in years of unusually high incomes. Some form of income tax "indexing" to lessen such effects may be desirable for both the farm and non-farm sectors in a state where many incomes tend to be quite volatile.

Manufacturing and Mining

These two divisions combined produced a little more than $328 million of personal income for Montanans in 1973 -- about one-tenth of the total from all sources, and less than half of what agriculture contributed.

Both industries had expanded moderately since 1969. Manufacturing earnings went up 30 per cent in the state, a little more rapidly than in the nation. The upswing in mining was 38 per cent -- just equal to the United States' advance.

Because Montana's gains in these industries were small compared to the advance in farming, and because these industries have relatively little importance to the state's economy, not much can be made of these changes. Most of the strength in mining was in metals. The potential for coal mining is still to be realized but it is possible that the state will not develop its extensive coal fields.

Local Service-type Lines

Reflecting the strong gains in farming, increases in most major local service-type industries in Montana ranged from well above to somewhat above the increases in the nation. Advances were sharpest in construction, the transportation-communication-public utilities group, the finance, insurance

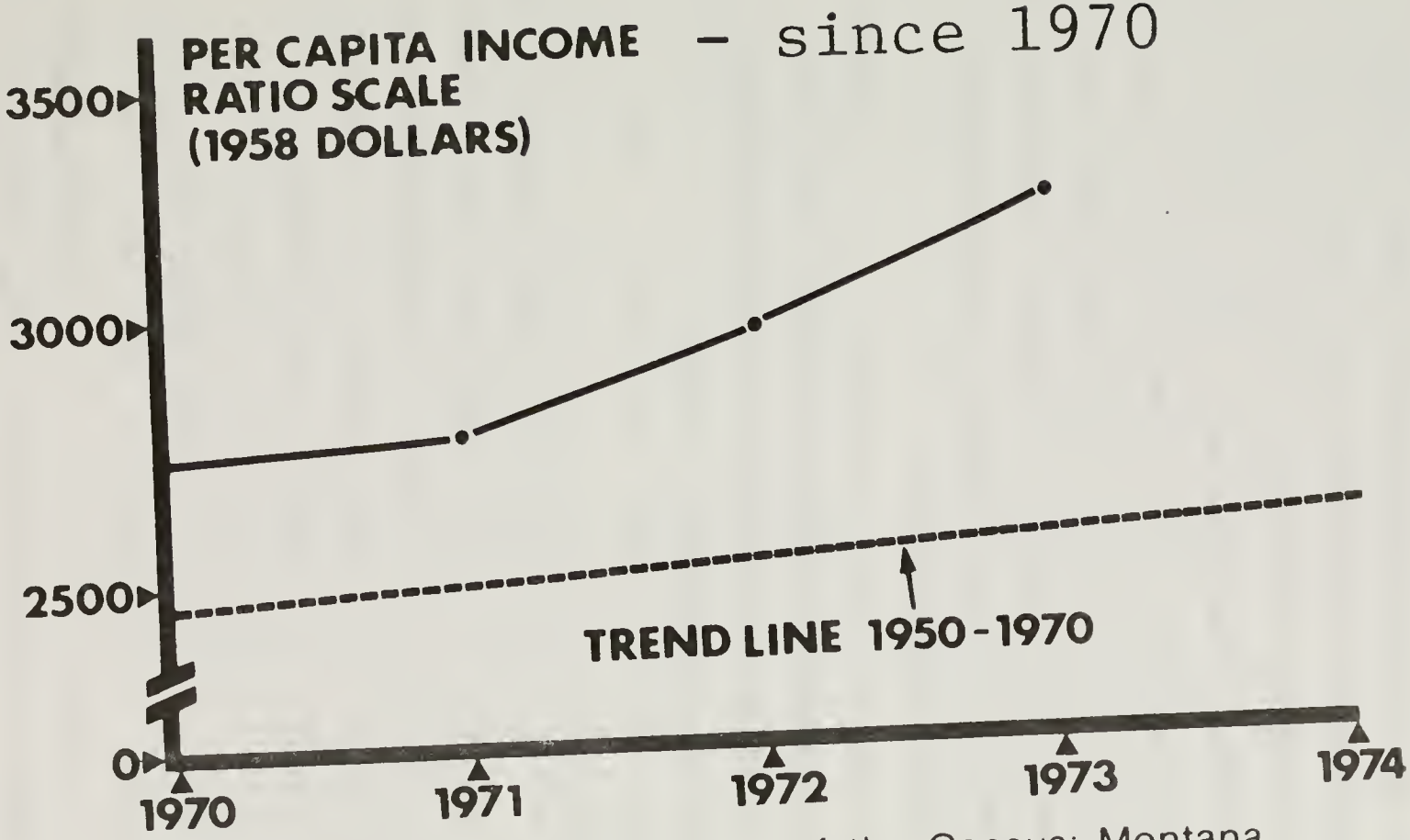
and real estate group and in wholesale and retail trade. Only the rise in local services lagged somewhat behind the national average.

Per Capita Income

Per capita income, total personal income divided by total population, in Montana was $4,682 in 1973; by far a record high. The level was still 7 per cent ($359) below the U.S. average, but in 1969 it had been 15 per cent below the U.S. average. Such sharp shifts in Montana's per capita income relative to the U.S. have occurred often. They are a reflection of the volatility of farm income. Until the recent improvement has been maintained for a period of years, it must be viewed as a temporary phenomenon.

From 1969 to 1973 per capita income in Montana grew 47 per cent, compared to the national average gain of only 35 per cent. During this period, consumer prices nationwide went up about 18 per cent. This price rise offset about two-fifths of the gain in per capita income in the state, and more than half the gain in the nation. Even so, Montanans' real per capita income was up nearly 30 per cent, a very sharp improvement for so short a period.

The sharp upward trend in per capita personal income corresponds closely with the recent prosperity in agriculture, and one is likely (in fact, almost certain) to be led astray if he attaches much significance to those increases. It is true that Montana experienced some relative income gains,



SOURCES: U.S. Bureau of the Census; Montana Department of Labor and Industry, Employment Security Division; U.S. Department of Commerce, Bureau of Economic Analysis.

compared to the United States average, during the early 1970s. Not only have these gains been modest, but they may not be permanent. Most of the recent Montana income gain has been a result of the general increase in agricultural prices. According to U.S. Department of Commerce figures, between 1972 and 1973 Montana farm income increased by $202 million or 44.4 per cent (about 37 per cent in real terms), while non-farm income increased by $192 million or 10.4 per cent (about 5 per cent in real terms). As we pointed out earlier, the recent gains in farm income are largely a result of cyclical forces, and probably will not be sustained.

Income figures for all of 1974 are not yet available. Preliminary estimates for a part of the year indicate that real personal income is declining -- a trend which appears to have begun in the third quarter of 1973.

Unemployment

Unemployment remained relatively high in Montana in 1974, even after a 14 per cent surge since 1969 in non-farm employment. At 6½ per cent, the jobless rate was well above the U.S. average of a little under 5 per cent. The differential had improved since 1969, though the rate in Montana then had been 5½ per cent against 3½ per cent nationwide.

Historically, however, the unemployment rate in Montana has hovered about 1 percentage point above that of the U.S. The recent differential of 1½ to 2 per cent does not look good in this context -- expecially after a period of rapidly rising prosperity and economic growth.

Trends Over the Long Cycle: 1959-1969

Montana's relatively vigorous growth in total personal income over the past four years stands in sharp contrast to its performance between the two preceding peak years (nationwide) of 1959 and 1969. With farm income in both the state and the nation growing slowly, total personal income in Montana rose only 64 per cent over the 10-year period. This was a rate of gain more than a third under the U.S. advance of 97 per cent. Only in two states of the fify (Wyoming and West Virginia) did income grow at a slower pace than in Montana.

This decade clearly illustrates the state's vulnerability to a depressed national agricultural situation. U.S. farm income rose only 45 per cent -- less than half the gain in total income. Although farm income rose more vigorously in Montana than elsewhere, its rise was not strong enough to pull the rest of the state's economy with it.

Reflecting the weakness in farming combined with slow growth in manufacturing and mining, growth in all major service industries in Montana was substantially under the nationwide gain in services. This poor showing also stands in sharp contrast to the 1969-73 period, when growth in nearly all major service industries in the state was relatively good.

Income Per Capita

From 1959 to 1969, per capita income in Montana rose only 58 per cent compared with a nationwide advance of more

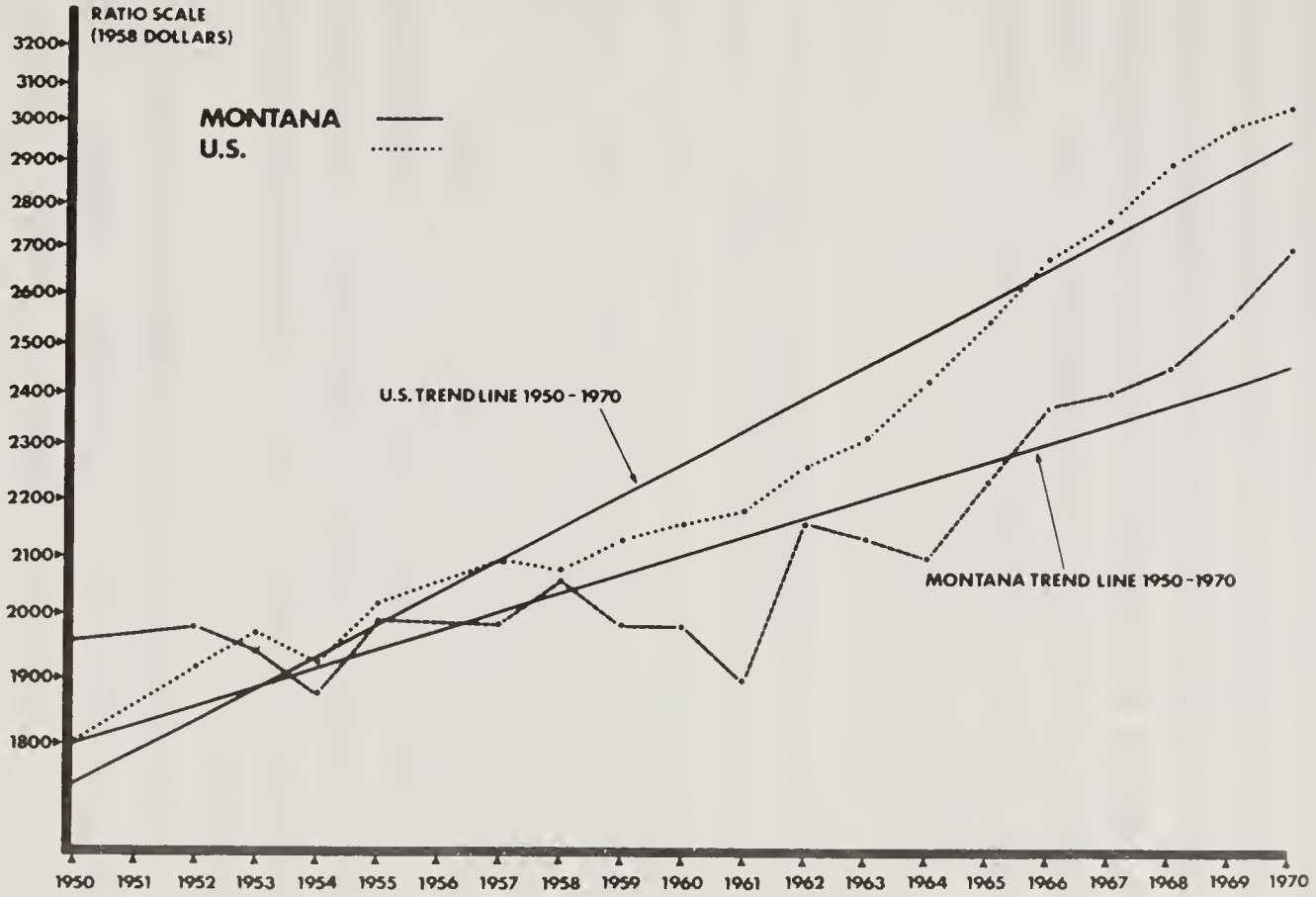
than 72 per cent. In the earlier year, Montana's average income was 7 per cent below the U.S. average; and as pointed out above, by 1969 the state was 15 per cent below the national norm. Consumer prices rose relatively slowly over this period, going up less than 22 per cent, so that real incomes in both the nation and the state were sharply higher in 1969 than they had been in 1959.

The trends in per capita personal income converted to 1958 dollars are shown in figure 8. During 1950, per capita income in Montana was $1,957; by 1970, it had risen to $2,710. This is a significant increase and indicates that the average Montanan was certainly better off in 1970 than in 1950. During the same period, however, per capita income in the United States rose from $1,805 to $3,067. In other words, in 1950 the income of the average Montanan was over 8 per cent greater than the average for the nation. But by 1970, this figure had dropped to more than 12 per cent below the nation-wide average. Although the year-to-year data show numerous peaks and troughs, the overall trend is unmistakable; per capita income in Montana grew at a much slower rate than in the United States. This suggests that while Montanans were improving their economic position, they were not sharing in the national prosperity to the same degree as were their counterparts elsewhere in the country.

The peaks and troughs in Montana's per capita income shown in figure 8 reveal an important point (and provide a

FIGURE 8

PER CAPITA PERSONAL INCOME
MONTANA AND THE UNITED STATES, 1950-1970



SOURCE U S Department of Commerce, *Survey of Current Business*, August 1973

preview of our conclusions concerning current conditions): in almost every case, the major swings may be correlated to developments in agriculture. The prosperous agricultural years of 1950, 1951, 1958, 1962, and 1966 all correspond with large upturns in per capita income in Montana. Analogously, 1954, 1959, and 1961 were years of poor harvests on Montana's farms and ranches and statewide per capita income plunged. It is obvious, too, that the ups and downs of farm income have made total per capita income far more erratic in Montana than in the country as a whole.

Probable Industrial Structure in the Late Seventies

Introduction

The pages which follow attempt to foresee how the industrial structure of the Montana economy is most likely to evolve between now and the end of the decade.

In order to make this task a little more manageable, we shall interpret the term "industrial" more narrowly than heretofore, confining it to non-farm industry and omitting government.

The estimates have been made in terms of wage and salary income. They do not allow for the earnings of business proprietors or for other labor income. These omitted items are not known for the past as reliably as are payrolls. More to the point, they are not known at all yet for any year later

than 1972. It has been considered preferable to sacrifice coverage, primarily in trade and service, rather than to forego such relative currency of information as we can achieve.

Most economic projections into the future, including the broader and longer-range "OBERS" estimates made for Montana by the U.S. government which are discussed at the end of this section, are presented in dollars of constant purchasing power. This is primarily because inflation has always tended to proceed in intermittent bursts separated by periods of relative stability. Most of these bursts have been associated with wars: the Civil War; World Wars I and II; Korea and Viet Nam. Such things are not only beyond our power to predict; they are beyond our willingness to predict.

On the other hand, they are in fact embedded in the record of past experience which is all we have to go on when we try to appraise the future. It is difficult enough to extract them from the record even at the national level. This is usually done by dividing dollar totals through by price indexes, year by year, and then dividing the results by numbers of people employed in the same years to get an indication of trends in "productivity." Trends in employment and productivity are then separately projected into the future, and the results multiplied together to get values for "real" income and output "measured in constant dollars."

This long series of calculations is considerably less tenuously based when performed at the national level, where great statistical resources can be applied at each stage. Once

the national projections have been completed -- and this is always a work which requires several years -- the results can be distributed over the various states by means which are appreciably more reliable than those that would have been available to make the initial estimates at the state level.

Considering all these possibilities, it was decided that for the present purpose we would do better to stay as close as possible to the hard facts about Montana which are directly observable in the statistics currently compiled for the state. We have accordingly chosen not to try to comb the inflationary virus out of our numbers. It remains in them, as it remains in the real world we inhabit.

Disentangling the Trend from the Cycle

For this reason, and because we shall be dealing with comparatively precise line-of-business categories, it is even more important here than in the foregoing pages to try to disentangle the longer-term trends from the confusion which cyclical and other more temporary disturbances introduce into the statistical record.

To achieve this disentanglement, we have resorted to the fitting of a trend to each line of business using the method of demi-averages. Briefly, the peculiarities of specific years are averaged out: instead of comparing one year with another, we compare one three-year period with another.

This gives much the same result as though we compared two years far apart. In the latter method, which has been used in the foregoing analyses of employment and income in broader line-of-business groups, the influence of the choice of particular years for comparison is minimized by the fact that longer-term influences become steadily more dominant -- more important relative to the transitory factors -- as we stretch out the span of time which separates the two years compared.

On the other hand, this method suffers from the disadvantage that conditions in the earlier of the two far-apart years compared may be so different from those of today as to be more or less irrelevant. The reason for measuring trends, after all, is to project them into the future. For this purpose, we want a comparison between two comparable stages in the operation of the same underlying long-term factors which are likely to be operating in the future we try to project. It will not do to compare two years which have been dominated by two entirely or substantially different sets of long-term factors; such a conclusion provides no clue to the shape of the future. In this case, basic conditions may well stage another complete metamorphosis over a like period of time ahead, rendering the past quite useless as a guide.

Even if no complete discontinuity occurs during the coming decade, the presence of such a break during the past decade means that what happened ten years ago casts no light whatever on the direction in which the present set of long-term

forces is carrying us. The fitting of a trendline to a pair of points ten years apart is then positively misleading: one would be no worse off to take the single observation that does reflect current conditions and assume no further change.

One further retirement has been introduced into the method of demi-averages. We have attached extra importance to the movement within the second triennium, from 1971 to 1972 to 1973.

This may have imparted something of an upward bias to the results, inasmuch as the business cycle was in an expansionary phase during these three years. On the other hand, there have been some fundamental and lasting changes in the Montana economy since 1970, too. The rest of the decade really will be more like the early seventies than like the late sixties.

We have solved this dilemna by hedging. In those cases where the unweighted and weighted analyses give different results, our conclusions below are all in terms of ranges, rather than single target numbers.

What, then, does the analysis of 1967-73 experience in terms of modified and unmodified demi-averages tell us?

Mining

Montana's payrolls for all mineral extraction taken together totaled close to $75 million dollars in 1973. This was after two successive annual increases of close to $10

million, so that the current annual rate may be well above $90 million.

These recent gains, of course, represent a sharp acceleration from the longer-term rate of rise: the compound-interest growth rate from 1967-69 to 1971-73 was only 8 per cent. What happened in the interim was one of those discontinuities that was discussed in more general terms in the introduction of this section. It is obviously going to be a long time before Montana returns to the trend growth rate registered in that period -- governed as it was by the highly disparate influences of the easy world market situation for fuels that prevailed before the Arab oil embargo, on the one hand, and the beginning of an explosive burst of adjustment to the requirements of the Clean Air Act, on the other. As a practical matter, it is simply impossible to distill much guidance from the past record as to what the future may hold.

For the present purpose, we have taken a weighted average rate of change which gives a good deal more weight to the expansion during 1971-73 than to that achieved from the late sixties to the early seventies in total, and concluded that the future growth of this industry division can hardly be less than, say, 10 per cent yearly. While not to be taken very seriously in itself, this is a useful conclusion because it enables us to fill out a reasonably credible grand total of Montana payrolls as of the end of the seventies, which in turn may serve as the base for a percentage distribution of this total by industry. Only if the 10 per cent figure for mining

is drastically in error will it distort very much the percentages of percentages of total calculated for other industries.

Coal

The great impetus, of course, comes from bituminous coal mining in the southeast. The three-year total for the early seventies was more than four times that for the similar period in the late sixties. Annual increases over this span form an unbroken series of accelerating advances, so that the 1973 total was well over double that of the year before, reflecting a jump of more than $3 million in that single year.

Sample data suggest a comparable increase in 1974. The Montana Energy Advisory Council has recently estimated that tonnage output can reasonably be expected to triple by 1980. This seems conservative, however, in view of the pace which expansion has reached already. The estimate reflects the magnitude of several contracts already in the hands of the five major coal companies now operating in the area. Such contracts call for over 14 million tons this year, compared to less than 11 million two years ago, and the Decker Coal Company has just asked for state permission to open a new strip mine in Big Horn good for nearly six million more by 1976. Production by these companies is expected to pass 40 million tons by the end of the decade, according to the survey.

Such an expansion would not even match the percentage increase in payrolls recorded from the late sixties to the early seventies, when earnings rose more than five-fold. Of

course, over that period there was a very substantial increase in miners' rates of pay. This factor contributed a good deal to the surge in total payrolls in that period, and can probably be relied upon to contribute a good deal more in the years ahead.

It hardly needs to be said, though, that the evolution of public policy could lead to drastic revisions up or down in any such forecast. Changes in the technology of fuel production, transportation, and consumption could very conceivably lead to similarly large changes in the outlook, as well, now that so much effort is being expended on research and development in these newly-critical areas of industrial knowledge.

Concentration of the stimulus of this economic development in the southeastern counties of the State is clearly attested by a location quotient of 9.0 here for this industry, taking the entire State as a point of reference. That is, bituminous coal mining bulked nine times as large in the economy of this area as it did in that of the State as a whole. Up to 1972, the last year for which this figure has been calculated, there was no particular trend apparent. By the end of the seventies, though, exploitation of the coal beds further north may well have reduced the quotient for the southeast and distributed the stimulus more widely.

Petroleum

The trend of payrolls in petroleum and condensate extraction has been in sharp contrast to that of coal. Gains of

better than 10% were recorded in 1972 and 1973. This movement constituted a return to the strong trend recorded in the late sixties, but failed to restore the total to the previous peak of $18 million reached in 1969.

During the past year, there has been little further expansion, on balance, though the pace of new drilling and permit issuance suggests that a renewed spurt should be expected. The industry certainly has the potential for a $32 million annual expansion. The sharp year-to-year fluctuations recorded in the past, however, suggest that it would be hazardous to count on this potential being realized consistently.

Copper

Copper mining, once a mainstay of the economy of the state, achieved a fairly steady expansion of payrolls throughout the period under review, and passed the $40 million mark in 1973. This particular upsurge has fairly certainly peaked out with the sharp decline in copper prices that featured late 1974; after expanding over $8 million in 1972 and $3½ million more in 1973, the industry seems likely to cancel much of this advance during the current year. A reduction in work force on the order of 1,500 is in prospect for the Butte-Anaconda area. This would imply a cutback approaching $20 million in the annual rate of wage and salary payments.

For the longer term, the picture is obscure except for the virtual certainty that activity will fluctuate with the world price of copper. Much depends, of course, on the success

of the Anaconda Company in developing the hoped-for efficient methods which are needed to render the economic recovery of copper from the ore bodies remaining in the deep mine. Granted reasonable success in this endeavor, the industry's growth trend could quite conceivably approximate the 12 per cent annual rate it has averaged in recent years. The volatility of world demand -- and world supply, for that matter -- suggests that industry payrolls may well be far above or below their trend value on any particular date in the future.

Construction

Construction had been one of the major focal points of the economic expansion in Montana in the early seventies. The unusual strong cyclical rebound in 1971-72 halved its pace in the following year, and ended in 1974. Comparing the late sixties with the early seventies, though, we see an uptrend on the order of 9 to 11 per cent per year, for an annual increment of close to $10 million. This average gain was matched even in 1973, in dollar terms.

Trend of the Total

Such a performance would seem at first glance to confirm the existence of a continuing uptrend of this order of magnitude. If it is assumed that the advance two years ago owes something at least to the persistence of a cyclical upswing in demand, however, some doubt is cast on the sustainability

of a $10 million rate of rise in total construction payrolls in the state.

The doubt is strengthened somewhat, moreover, by sample data for 1974 indicating that after the middle of the year employment was running consistently behind 1973, month for month, while the very pronounced upsurge in average weekly earnings came to an abrupt halt.

The importance of this reversal as a harbinger of the possible trend during the late seventies should not be exaggerated. For the year as a whole, the growth in average earnings clearly outweighed the falling-off of total employment, so that payrolls for the full year probably registered another good gain over the year before. Much more important is the fact that the weakening noted in the latter part of 1974 stems from a cyclical component -- as the general economy turned down in reaction to the unsustainable growth of 1971-73 -- which may very well have masked the influence of longer-term forces moving as strongly as ever for a continued expansion.

Line-of-Business Detail: Summary

Some light on these questions may be provided by an examination of the line-of-business components of this volatile industry.

The overall strength of the total centered in the segment represented by general building contractors and to a lesser extent by special trade contractors such as plumbers, electri-

cians, etc. Heavy construction lagged, comparatively speaking. From the late sixties to the early seventies, general building rose by two-thirds, special trade contractors' payrolls were up by one-half, and heavy construction by less than one-third.

A similar pattern persisted within the latest triennium. Heavy construction registered a sharp decline in 1973, and another followed in 1974, to judge by the employment statistics. Payrolls in the trades slowed their growth appreciably two years ago, and leveled off last year as employment slipped.

General Building Contractors

General building, by contrast, rose even more sharply in 1973 than the year before, and continued its vigorous rise through 1974.

General building construction activity, and to a lesser extent special trade contracting, have benefited from the strength of home-building in the recent period of high and unstable personal incomes. Urban renewal in Helena and elsewhere has also been a favorable factor. Such demand has been more easily sustained in Montana than in the rest of the country, where it has come close to being strangled by record high interest rates and a shortage of capital funds relative to the need.

Even in Montana, 1974 brought reports that the needs of farmers and ranchers for funds to carry over their wheat and cattle were tending to crowd out the applications from home buyers. If and as these agricultural credits are liqui-

dated, the pressure on residential building may ease without having had more than a relatively brief impact on the building contractors.

Heavy Construction

Heavy construction always seems to be largely dominated by special conditions. The latest of these, of course, stem from the surge of activity in and around the coal fields. Aside from the work needed to build the infrastructure in these areas up to the demands made on it by the needs of the industry and its new employees, heavy construction contractors may well play a substantial part in the actual process of strip-mining itself. It can reasonably be anticipated, therefore, that the two-year slump in this line of business will be short-lived, and that the earlier trend toward a payroll expansion on the order of 7% per annum will prevail over the second half of the decade.

Outlook for the Industry

Over and above the circumstances affecting particular lines of construction activity, the outlook for the rest of the seventies may well prove to be dominated by the broad general necessity of shifting the geographic distribution of income and population within the state to conform to the new national pattern of demand for Montana's human and material resources. Any such broad shift, whether toward the Fort Union Formation or not, inevitably makes work for builders. Largely on the strength of this consideration, the industry may well entertain a hope for an annual growth rate to 1980

approaching 12 per cent, with general contractors faring considerably better than this and special trade contractors perhaps somewhat better.

Both these branches will in this case apparently increase their relative contributions to total private industry payrolls well beyond the 3 and 3½ per cent they account for respectively in the early seventies. The importance of general contractors, in particular, might come close to doubling in percentage terms, in the most favorable case. Such a result could only be expected in the event of substantial development of economic activities somewhere in the state, most probably in the east.

Manufacturing

As has been noted above, Montana manufacturing is not so interesting for what it is as for what it might become -- what it has become in other similarly-situated regions. To the overall economic growth which took place from the late sixties to the early seventies, manufacturing payrolls contributed only about half as much as did payrolls in wholesale and retail trade, and only one-third as much as did government agencies. In percentage terms, its gain of 29% for the four-year span compares with 40% for trade and 41% for government.

With wood products and metal refining -- its two biggest branches and the source of half the manufacturing income in

the state -- both now passing through the depression phase of their respective cycles, the immediate outlook hardly seems apt to reward the closer scrutiny which the available data permit.

The two key branches mentioned have both been discussed in detail elsewhere. Here it need only be noted that neither of them bettered the growth rate of manufacturing salaries and wages in general during the seven-year period under review: 6½ per cent for wood and 5½ per cent for metal compared to 6.6 per cent for all manufacturing. Primary metals did no better than other branches last year and both metal refining and wood products seem likely to fare worse than average in 1975.

Outlook

Prospects for the late seventies seem not much better, on the record to date. Lumber products, accounting for close to 7 per cent of all industrial payrolls in the early seventies, will do well to reach 6 per cent at the end of the decade unless some new development intervenes; and the only major factor clearly in sight which might break the past trend is a change in federal government policy on cutting which might help prices and wage rates but would certainly benefit employment.

For metals refining, the situation appears similar. The industry's share of total industrial payrolls could well decline from 3 per cent at the beginning of the decade to something on the order of 2 to 2½ per cent toward the close, if we go

strictly by the record. In this case, there exists a possibility of a technological breakthrough at the mining end which could well lighten the cloud over the present situation in the industry. On the other hand, though, environmental considerations pose a continuing threat which is not at all reflected in the trend of refining payrolls over the past decade.

Food products, which likewise accounted for close to 3 per cent of total industrial payrolls in 1971-73, are growing at a rate of approximately 5 per cent -- even if we make liberal allowance for the possibility that the strong gains toward the end of the period under review may prove more typical of the years ahead than the more limited annual advances achieved earlier.

Petroleum refining, though it accounts for no more than one or two per cent of the all-industry total, has been growing a bit faster than other manufacturing lines taken together. On the record this industry might well achieve a 9 per cent annual growth for the rest of the decade, even if it continues to depend to a substantial extent on crude from out-of-state. Here, again, expansion of petroleum refining activity poses an environmental problem.

The industries we have discussed make up about two-thirds of all manufacturing wages and salaries in Montana. Most of the others are smaller, individually, but many are growing much more rapidly. Paper products represent a case in point. Several others, including stone, clay and glass among the

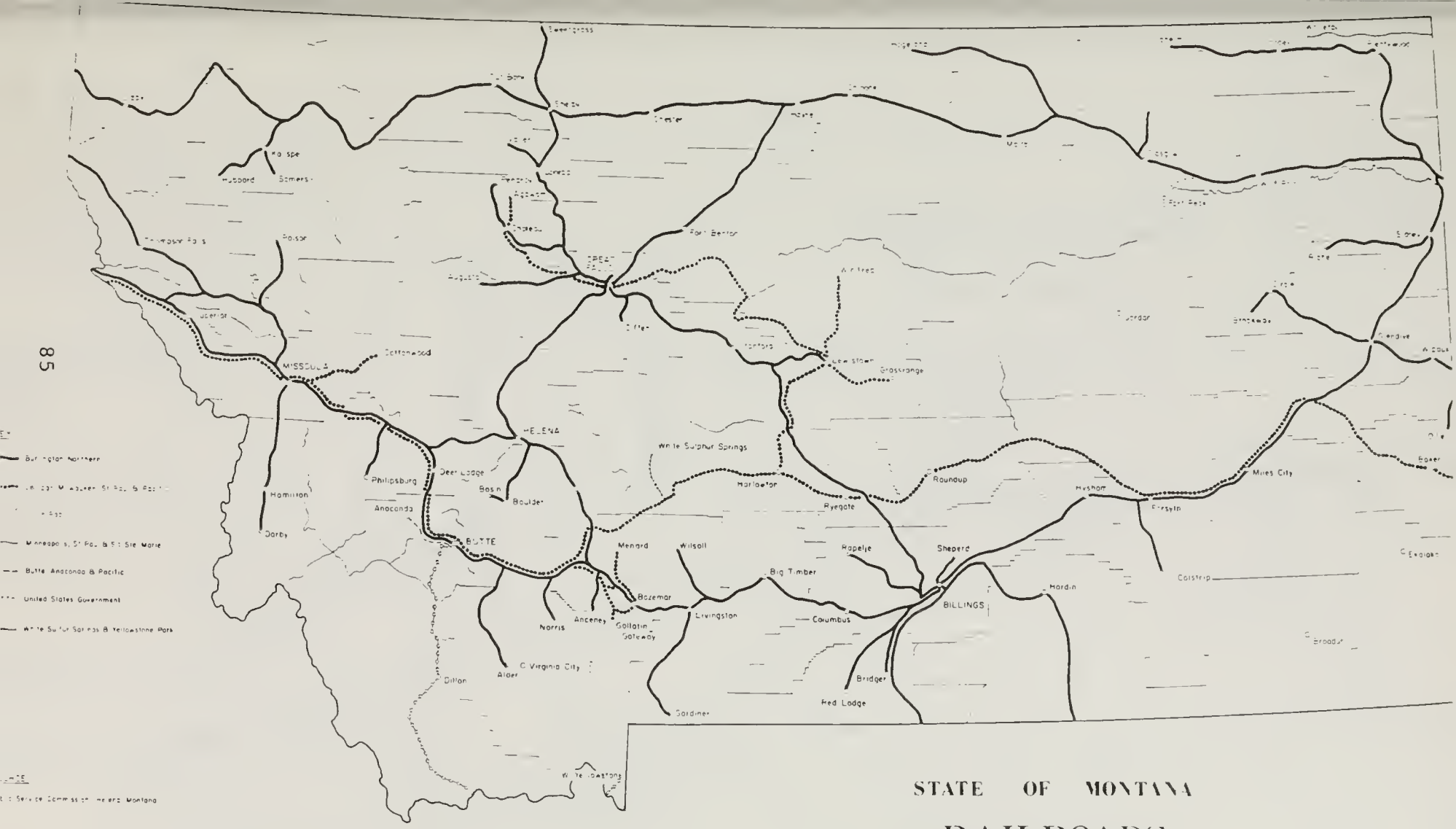
durables and chemicals among the non-durables, have been keeping pace with petroleum refining; and the two lines mentioned, together contribute approximately as much to total manufacturing payrolls as does petroleum.

Balancing all these varying growth rates one against another, we may perhaps expect the total of all manufacturing payrolls to move up by a bit over 8 per cent a year.

This would mean a one-seventh share of the all-industry total by the end of the decade compared to over one-sixth at the beginning. The threat of over-industrialization which has been of such concern to many Montanans is not, after all, much of a threat for the foreseeable future.

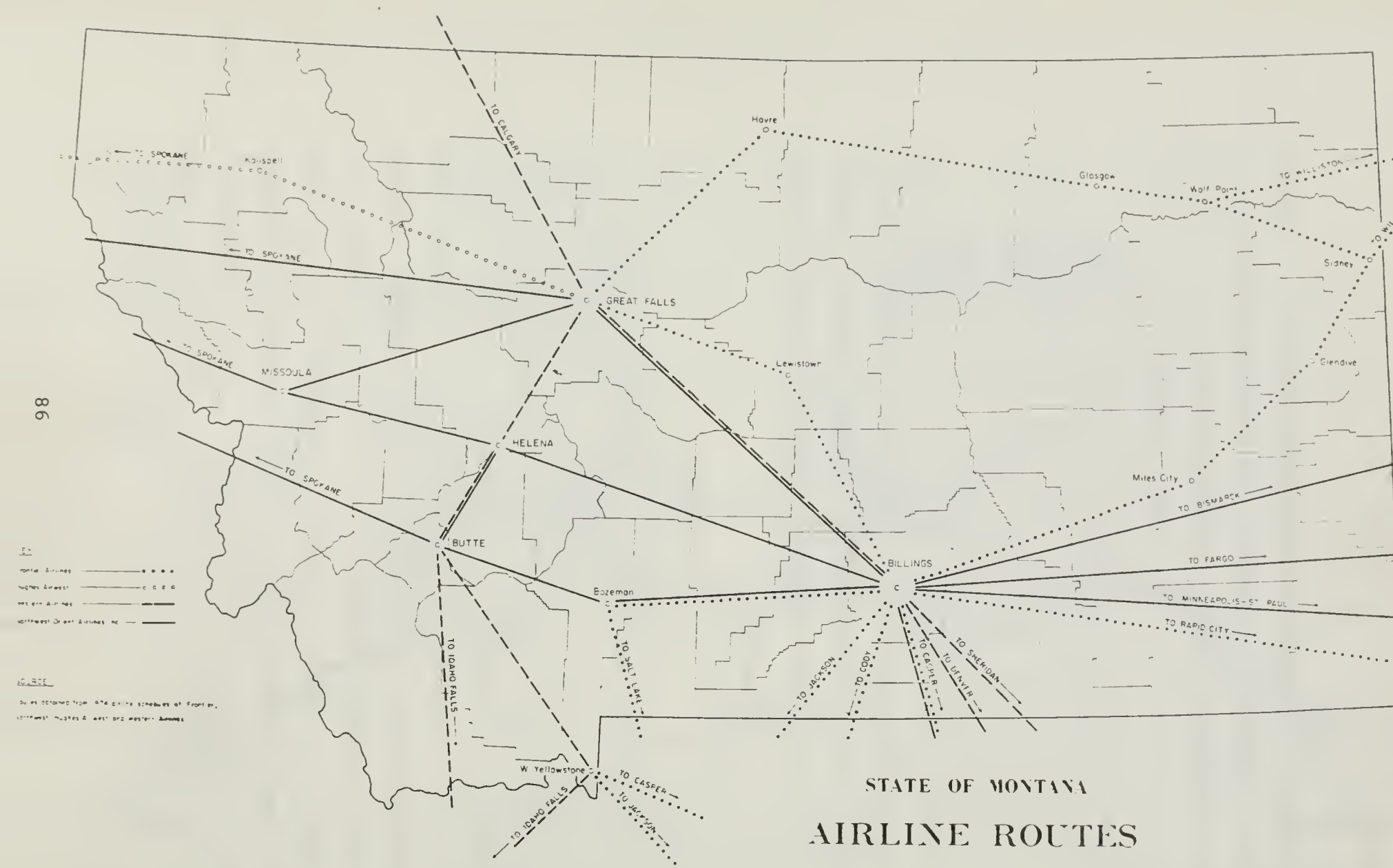
Transportation

Transportation firms in Montana pay out three-fourths as much as do all the factories in the state. The growth trend in transportation, moreover, seems likely to contribute three-fourths as much "progress" in the next few years as does the growth trend in manufacturing. This might seem a shocking state of affairs, if one believed in the Marxist thesis that only physical goods "count". Even a more sophisticated reader might be excused for wondering whether the state's manufactured and agricultural products will not have to be priced pretty high if the price is to cover the cost of producing them plus such a heavy surcharge for carrying them to their destinations.



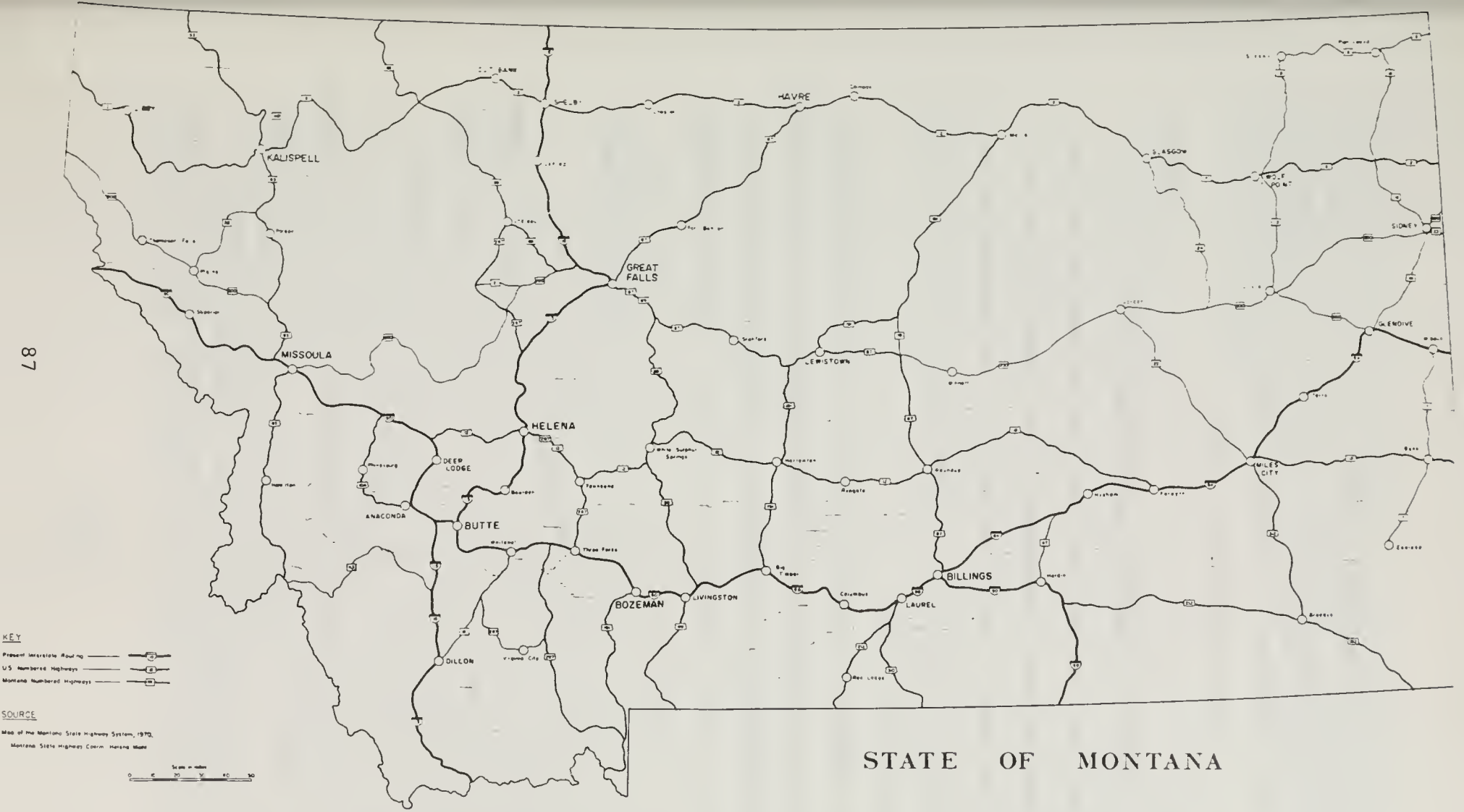
STATE OF MONTANA

RAILROADS



STATE OF MONTANA

AIRLINE ROUTES



STATE OF MONTANA

HIGHWAYS

Great Distances and Specialization

There is a modicum of truth at least in the latter proposition. Vast distances do constitute Montana's chief economic problem -- as well as one of its charms.

The size of the outlays for transportation reflects more than the problem of great distances, however. It reflects also a price that is paid for the gains of specialization. The state has evidently concluded that it pays better to specialize in wheat, cattle and copper, and obtain most of its consumer goods in exchange for these, than it would to produce the consumer goods itself.

Rapid growth in certain special lines of manufacturing might be taken to suggest that there has lately been a reaction against this pattern. A casual look at particular lines of manufacturing which have been growing most rapidly, however, shows that the opposite is the case. Most of these lines serve to add value to the natural products Montana produces and exports, rather than to those we consume at home.

The combination of chronically high unemployment at home with heavy dependence upon imports of consumption goods also suggests the possibility of a fertile field for economic development initiatives -- if home-produced goods can be worked into the established distribution channels (and shopping lists) now supplied from out-of-state. Some concrete possibilities for growth along this line are examined elsewhere in this report. It should be noted here, however, that few such

opportunities which are obvious to statisticians will have been overlooked by practical men of business. If they had not been exploited it is usually for stronger reasons than mere lack of imagination.

Profits

One is naturally impelled to wonder how much of the heavy weight transportation in the total Montana economy might be due to profits reaped by the railroads in particular. But railroad profits are not even included in the income measures we are using. We are looking at salaries and wages only. If we do look specifically for profits, we will find the stockholders looking, too. Over the entire past decade, the stockholders of Burlington Northern have seen only a 3% return on the capital invested; those of the Milwaukee Road have seen less than 1%.

Roads and Rails

Motor freight transportation is still growing a little faster than are the railroads. Comparing the early seventies with the late sixties, rail payrolls rose by one-third, or about $5 million a year -- 8 per cent -- on the average. Motor freight payrolls were up by almost half, or 10 per cent ($2½ million) per year. The growth in trucking, moreover, accelerated from 1971 to 1973, while the expansion in railroading slowed as this biennium passed.

It should be noted, though, that both lines of business were still doing extremely well in 1973. Truckers gained

nearly twice as much in that year as they had on the average during 1967-73; railroads gained half again as much. Last year, the advance continued, though apparently at a somewhat slower pace. Since nearly all forms of transportation activity are subject to wide swings over the business cycle, there is undoubtedly some downward reaction ahead in 1975.

Buses and Air

Local service transportation (mainly city buses) and air travel are both relatively far less important in Montana. Payrolls in the latter total about 3/4 those in the former, but air travel is the faster-growing. In recent years, it has substantially matched the percentage growth rate of truck transporation, whereas the expansion in local services has only been about half as rapid. Airline gains have also been somewhat greater in dollar terms, both for the period as a whole and from year to year in the early seventies. They registered more of an acceleration, as well 1973 was one of the best years since the mid-sixties for the airlines.

Meanwhile, expansion in local bus employment was hampered by the rising tide of personal income and consequent step-up in the trend to substitution of personal auto travel for the bus.

Outlook

All branches of transportation but local service seem likely to progress at annual rates of 11 or 12 per cent over the next few years, if one may judge by the past. Payrolls in

air transportation may well gain in excess of 12 per cent annually, on the average; and motor freight payrolls in excess of 13 per cent. The latter have a chance of increasing their contribution to total industrial payrolls from 2.8 per cent in the early seventies to somewhat above 3 per cent by the end of the decade.

At the other extreme, railroading seems likely to lose a little in market share, from just under 7 per cent in 1971-73 to perhaps 6½ per cent by 1980. (It must be noted, though, that coal is one of the most desirable kinds of freight from the railroad's standpoint!)

For all transportation services combined, the indicated growth rate of somewhat above 11 per cent will permit the maintenance of their present one-tenth share in total industrial wages and salaries through the end of the decade.

Public Utilities

Communications and public utilities account for about one-third as much in wages and salaries as does transportation in Montana. Growth is much steadier in the public utilities, though. From the late sixties to the early seventies, the utilities kept pace almost exactly with the carriers, but they lagged a little from year to year during the latter part of this period. Judging by the sample data for employment which we have covering 1974, the utilities may well have

played catch-up last year as the carriers fared less well. In 1975, if the two lines of business run true to their usual pattern, the utilities will forge ahead.

Telephone Payrolls

As between telephone service on the one hand and electricity and gas on the other, there has been a similar neck-and-neck race. Payrolls in each gained a little over one-third from the late sixties to the early seventies.

Telephone payrolls stepped up their growth in 1973, though, while the fuel and power companies showed very little expansion. Pay rates and even employment in these latter are of course being squeezed nowadays as the sharp rise in material costs comes up against the traditional sluggishness of the regulated selling prices of the final products.

Outlook

This industry division seems unlikely to achieve a growth rate in excess of 10 per cent over the balance of the decade. The electric and gas utilities would do well to expand by more than 8 per cent a year, in the absence of a probable surge of expansion fueled by the coal beds around Colstrip I and II. Their 2½ per cent contribution to industrial payrolls in the state might well fall to around 2 per cent by 1980 unless this happens.

The communications industry, on the other hand, apparently has a good chance of maintaining a rate of growth on the order

of 11½ per cent. This would be sufficient to maintain its share of total wages and salaries at just under 3 per cent.

Wholesale and Retail Trade

The tasks of distributing goods to Montana's consumers and businessmen, and gathering up and shipping her products, receives less respect than it deserves.

The economists of the State tend to dismiss the industry as merely "derivative", fated to follow slavishly the ups and downs of the national markets for the state's export industries while contributing nothing of its own to progress. Non-economists observe the distributors' markup and question whether it is really ethical for him to charge so much for the goods than he has paid and egalitarians of both sorts deprecate the low wages he pays.

To many people, his whole operation seems to make little more social sense than that of the robber barons who perched astride the medieval trade routes and levied toll on every passing caravan.

Probably few educated people would seriously defend any of these unfriendly propositions if challenged; but as tacit assumptions they seldom are challenged.

Role in Montana's Economy

In point of fact, the distributor does have a useful role in our economy. He would be sorely missed if he were not here,

or if there were fewer of him. The experiment has been tried. The Russians economize on clerk-hire in their distribution centers. The result is that consumers spend an equivalent amount of time standing in line. And most American consumers would say that the Russian doesn't get too much for his money when he finally does get to the counter.

To put the matter in another and perhaps more prosaic way: Montana's distributors give good value to Montana's consumers. They find us all the thousands of different things we want in the national markets, at the best prices going. We could easily pay 20 or 30 per cent more for a far less satisfactory standard of living, if we had to go to the big metropolitan centers and find the suppliers of all these thousands of things and bargain with them for ourselves.

Cutting Distribution Costs

Many attempts have been made to do this job more economically -- by mail order, by cooperative, by price controls -- but none of the attempts have cut the cost of distribution significantly. The tasks involved are not laborious, in the sense that pick and shovel work is; but still there seems to be something about it that nobody has yet been able to accomplish without a great deal of work.

Indeed this is probably one of the lines of business where competition is most effective, even in small towns. Where competition is really effective, it provides a guarantee of its own that the job cannot be done much cheaper. Anyone who

thinks it can is free to try, and pocket the savings if he proves to be right.

Trend of Earnings

A strong growth of distributors' payrolls, from $200 million annually in the late sixties to $300 million a year in the early seventies, is therefore not only a sign but in some part also a cause of the rise in the standard of living. The expansion has been consistent from one year to the next, moreover, and in fact has even tended to accelerate as the economy neared the cyclical peak.

Based on a comparison between the three-year total for 1967-69 and the corresponding sum for 1971-73, wholesaling moved up by more than 45 per cent and retailing almost 40 per cent. These gains were similar in sharpness to those in construction, and to those in professional services (mainly medical) noted below. The three lines expanded in parallel under the stimulus of Montanans' ability now to afford a greater variety of the good things in life.

The meeting of types of needs not met before always requires new arrangements -- front money, in the current phrase -- and costly experimentation to find the best sources of supply and ways of proceeding.

This is probably the reason why the economic effort put forth in these particular lines tended to increase more rapidly than in agriculture and manufacturing, where the payroll expansion in the same period averaged just under 30 per cent.

The same factor very likely also explains why there was a greater expansion in wholesaling than in retailing and a greater expansion in business services than in personal services or amusements.

Retail Lines

This same tendency for (innovationary) business to come before (old-style) pleasure appeared among individual retail lines as well.

The pattern was less clear here, though. Some of the pleasures involved innovation and some of the business needs did not; and the spread between the leading "growth lines" of retailing and the tailenders averaged scarcely one percentage point a year.

At the top of the list, with gains of over 40 per cent, the demands of tourists enabled "eating places" to grow just a shade faster than the hardware and farm equipment business. At the other end, furniture and grocery stores realized approximately 35 per cent.

Outlook

Distribution as a whole did well to maintain its 27 per cent contribution to total private-industry payrolls, with a growth rate per annum comfortably in excess of 10 per cent. The wholesale branches alone may approach 12 per cent.

If this is the pattern of the future, wholesalers may maintain or even increase somewhat their one-twelfth contribution

to total private payrolls and their one-third share of total distribution payrolls. Retailers seem likely to lose a little ground: their percentage could decline from just under 19 per cent in the early years of the decade to somewhat under 18 per cent at the end.

It should be remembered that retailing in particular is one of the areas where wage and salary income fall considerably short of being the whole story. The earnings of self-employed store keepers make up a sizeable fraction of total personal income in this field. If such earnings continue on the relative down-trend which has been well established in decades past, total personal income from retailing will decline in percentage of the all-industry personal income total by appreciably more than the payroll figures suggest.

Finance and the Services Group

Finance

Financial payrolls have trended upward almost as steeply as those in wholesale trade, overall. Banks (a bit under half the total) matched the 40% expansion in retailing over the four-year period.[1]

Insurance companies and agencies, which make up another fourth of all financial services, did a little less well. Real estate firms, on the other hand, registered a striking 74 per cent surge as land sales and prices boomed.

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1. *Four years, that is, from the middle of the 1967-69 triennium to the middle of the 1971-73 triennium.*

Services

The services group proper is a mixed bag of lines having little in common except that they do not produce commodities. The term is in fact almost a euphemism for "miscellaneous lines of business."

In Montana, professional service constitutes five-eighths of the total and matched almost exactly the 45 per cent advance achieved by the group as a whole from 1967-69 to 1971-73.

The much steeper rise reported for business service payrolls has already been noted. Hotels and motels, which make up almost exactly one-tenth of the service group, did nearly as well and landed in second place in the race to expand. In dollar terms, their payroll gains amounted to 2 to 4 million dollars annually.

Outlook

These are two of the most steady sources of personal income, destabilized only by the emotional swings in real estate activity and in hospital-building respectively. Finance, growing at a consistent 11-12 per cent annually, should maintain its place as the origin of 5½ per cent of private wages and salaries -- though banking as such may lose a little ground to newer types of financial institutions.

Services, expanding slightly faster in reflection of Montana's progress toward economic maturity, seem likely to improve their overall position by half a percentage point. In the early seventies, they generated almost exactly one-sixth

of all Montana's private payrolls. New hospital openings may contribute less to service-industry progress than in the past, but other medical services should more than fill the gap. By 1980, it seems likely that the combined total of hospital and other medical care will account for close to 40 per cent of all service payrolls, as against one-third in the early years of the decade.

Government

Federal, state and local government salaries and wages in Montana were composed as follows in early seventies.

	1971-73 Average	1973 Only
	(millions of dollars)	
Local Government	164	183
State Government	114	124
Federal Civilian	130	143
Federal Military	57	63
TOTAL	465	513

State payrolls have shown the strongest growth trend since the late sixties, rising at an average rate of 12 per cent. Local government bodies ran second, with federal civilian pay close behind and military a poor fourth. As noted above, no projections have been made for any of these.

Nationwide, the total of all federal, state and local spending is headed up considerably faster than either private

business income or personal income. The total is already five times the total profits of all the corporations in the country, and is enough to buy one-third of all the goods and services Americans produce. This fraction is up from a little over one-fourth as recently as 1960.

Consumer spending on things of their own choice has gone down accordingly, in percentage of the national output. The people still spend twice as much for themselves as the government spends for them, so that the various trade, service and finance lines discussed above have still a primary role to play in the economy.

Summary

The overall net effect of all the projected changes in the payroll total is of some interest even though it is hardly a "decision statistic". For what it may be worth, we may hazard the conclusion that Montana's private non-farm wage and salary income will expand during the seventies at a compound annual rate of almost exactly 12 per cent, other things remaining equal, and by 1980 will aggregate somewhat over $8 billion as against 3 1/3 billion dollars today.

OBERS Projections of Economic Activity

The U.S. Department of Commerce has prepared a geographically and industrially integrated set of projections through

1990. Estimates of personal income, earnings, per capita personal income, employment and population have been published for each state and Standard Metropolitan Statistical Areas as well as for the Nation. Unlike the current numbers, these projections (and the historical data on which they are based) are in constant dollars; that is, they are adjusted for rising prices. As a result, they represent the real volume of purchasing power in a state and, roughly, the physical amount of activity in each industry. They do not reflect inflation.

The projections for the states have been made after the projections for the U.S. economy and within the framework of the latter. First, the projections for the U.S. were made of income by industry, total personal income, employment and population. Then corresponding projections for the states were prepared. It was assumed that the all-state sum of each of these ought to equal the national total; and adjustments were made in the state figures accordingly. This procedure was followed for each of nearly forty separate industries. It is important to note some basic underlying assumptions for theorems that qualify all of the state projections:

Assumptions

1. The post-World War II trends in economic growth and prosperity will continue, more or less. It is assumed that there will be no major war and no depression on the scale of the 1930s. The nation-wide unemployment rate is arbitrarily supposed to be no more than 4 per cent -- certainly full employment and possibly an unattainable low rate.

2. Factors influencing historical shifts in "export" industry location will continue but with diminishing sharpness.

3. Export industries affect the local economy with a multiplied impact. State projections were first prepared for the state's export industries; and the projections for the local-service industries reflected the trend of these.

4. Trends toward area self-sufficiency in "residentiary" industries will continue.

5. The gradual migration of workers from areas of slow-growing or declining opportunities to areas of economic growth will continue. On this assumption, the projections of population are based on and flow from the prior projections of employment and income.

6. Regional earnings per worker and income per capita will continue to converge toward the national average.

7. Except in "retirement" areas, regional employment/population ratios will tend to move with the projected national ratio.

The Montana state projections show most major aggregates growing moderately over the next two decades, but at less than the national average rates. Earnings, total personal income, and per capita income are expected to expand fairly slowly. Population is projected to fall from its 1969 level, however, and employment to rise only fractionally. In short, the future is likely to be an extension of the past.

Coal Development

The state projections were completed in 1972, based on the statistical record through 1971. In the years that followed, developments in the nation and in Montana have occurred which cast serious doubts on the continuance of past trends.

As we have seen, the early seventies witnessed a surge of prosperity in the state's export industries which was echoed in the local-service lines and in population, too.

At the time the projections were prepared, population had been growing in the state at a very slow rate: up only 22 per cent in the two decades ending with 1969, compared with a nationwide gain of 33 per cent. Since then, population growth in Montana has been nearly as rapid as that in the nation.

As noted above, this pattern seems to have had its roots in the economic evolution which it parelleled; and its future seems likely to depend on economic developments likewise.

Most importantly, farm income lagged in both the state and nation over the decades from 1950 to 1969. Between 1969 and 1973, farm income in both areas spurted at an extremely rapid rate. From late 1973 though late 1974, farm income in both the nation and Montana declined rapidly. The projections have assumed a moderate growth in farm income from 1969 to 1990; but obviously this is at best no more than the least implausible among a wide range of assumptions that might have been adopted.

A far more formidable challenge to the overall projections for Montana is posed by the many questions flowing from the energy crisis.

Coal had "turned the corner" nationwide before the projections were prepared. After falling rapidly for almost two decades, coal output in the nation stabilized in the mid-sixties and then started to expand gradually. The national and state

projections reflect this. However, the Arab oil embargo, the resulting shortage of gasoline and other energy supplies, and the fourfold price increase for oil all took place after the projections were prepared.

While none of these current developments are reflected in the projections, it is not clear as yet how they should be.

Most basic is the question of the development of the state's extensive coal fields. Until the people of Montana have decided how rapidly and extensively they will allow the coal to be mined, where the water will come from, whether the coal will be exported from the state or whether there will be electrical generating facilities, coal gasification plants and chemical production in the state from the coal, it is impossible to allow for the new energy situation. If Montana decided to develop the coal slowly or not at all, this set of projections is probably correct. On the other hand, if Montana decides to allow rapid and extensive development of the coal fields and if the state succeeds in encouraging development of electrical generating facilities, coal gasification and chemical plants in the state, then these projections are too low. Coal mining and processing are basic export industries and any extensive development will lead to rapid expansion in the local-service industries.

The possible impact of these new conditions on Montana's economy are examined in ample detail elsewhere. It has been seriously proposed, however, that state policy be directed

toward minimizing the exploitation of the coalbeds. If this is done, the pre-embargo conditions will regain their validity as determinants of Montana's future. The Department of Commerce projections are highly useful as an honest, before-the-fact baseline to describe what the non-exploitation choice means. We present them as such a baseline.

Projections Without Coal Development

Total personal income (in constant dollars) in Montana is projected to rise by nearly 90 per cent from 1969 to 1990 when it should reach a total of $3.7 billion. Montana's per cent gain is one-third under the U.S. average increase of nearly 120 per cent. Even so, this is an optimistic forecast in that it is substantially above the advance of 53-plus per cent registered in the state in the twenty years 1950-69.

Agriculture

In line with experience over the past two decades, it is the state's heavy dependence on agriculture that is expected to back the economic growth of Montana. Comprising more than one-fifth of the state's economy, farming and ranching are expected to generate only 6 per cent more real income in 1990 than they did in 1969. This small gain seems about the best that one can reasonably hope for on the record: in the twenty years preceding, agricultural income in the state fell 30 per cent. Underlying the projected 6 per cent rise is the hope that at least the big post-war decline in farming is

over; so that the longer term trend value of output will stabilize or rise slowly from the 1969 level.

The rise projected here is considerably under the projected national average of 14 per cent. More important, the national avearge gain for agriculture itself is well under the advance projected for total income and for major non-farm industries. In fact, agricultural income is the only major component of total personal income that is expected to grow by less than 30 per cent over the 20 year period, nationwide.

Real non-farm income in Montana is forecast to increase nearly 90 per cent. This calls for the other export industries and the local service lines to come fairly close to matching their U.S. counterparts even if agriculture does not. The drag exerted by the latter is reflected in non-farm shortfall of only one quarter by comparison with the projected United States advance of 115 per cent. The Montana projections, in other words, call for a substantial improvement over the preceding two decades here, when non-farm income expanded only 70 per cent compared to a U.S. advance of nearly double that.

Non-Farm Industries

The major non-farm export industries in Montana are projected to achieve moderate growth. Earnings in mining are expected to expand by about 13 per cent, even though they registered a decline of equal magnitude in 1950-69. On the other hand, the gain of over 70 per cent forecast for manufacturing is well under that recorded for the 1950-69 period.

This reflects the shifting national outlook for the particular industries concerned.

The hoped for turn-around in agriculture and mining, continued moderate expansion in manufacturing and growth in the tourist industry should induce a wholesome expansion in nearly all major local-service industries. These may well progress faster overall than they did from 1950 to 1969. The largest percentage are expected in the service group itself and in the finance-insurance-real estate, contract construction, and wholesale and retail trade. While these gains in Montana are more vigorous than those recorded during the two preceding decades, because of their partial dependence on the less-than-dynamic agricultural sector they are all well below the gains forecast for these industries for the United States as a whole.

Population and Per Capita Income

Population in Montana is projected to slip from 694 thousand in 1969 to 665 thousand in 1990 -- a drop of 4½ per cent or just under 30 thousand. There had been little change in the ten years preceding the completion of the projections; since then, however, there has been some upturn.

If the moderate projected gain in total income is achieved in face of the projected small decline in population, real per capita income in Montana will spurt. The gain is projected at 88 per cent, somewhat better than the advance of 80 per cent in the nation.

This result of the Department's calculations seems optimistic, in light of past performance. The projected gain in per capita income in Montana over the next two decades is nearly triple the advance registered over the preceding twenty years. By 1990, Montanans' average income would be only 11 per cent below the national average. In 1969, it was 15 per cent below, having fallen from the figure of 8 per cent above since 1950.

Factors in the partial recovery would be (1) a structural shift from agriculture to non-farm sources, which tend to pay better per capita, and (2) rising real production per worker man-hour both on and off the farm as workers become more capable and better equiped.

Employment

The number of jobs in Montana is expected to total more than 270 thousand in 1990, a gain of only 17 thousand or 7 per cent from the 1969 total of 255 thousand. The increase is possible, despite a falling population, because of the continuing tendency toward two-earner families. (The assumed reduction of unemployment to a 4 per cent nationwide also contributes to the projection of such a rise.) If agriculture and/or other basic income sources were to expand more rapidly than is contemplated in these projections, or if Montanans were to achieve a finer division of labor in producing the goods and services they consume themselves, the improvement would be greater.

PROFILE OF MONTANA'S ECONOMY, 1973

Title	Montana		United States
	Millions of Dollars	Per Cent Distribution	Per Cent Distribution
Total Personal Income	3,376	100	100
Agriculture, Forest & Fisheries	657	19	4
Manufacturing	248	7	21
Mining	80	2	1
Contract Construction	167	5	5
Wholesale & Retail Trade	392	12	13
Finance, Insurance & Real Estate	93	3	4
Transportation, Communications, and Public Utilities	225	7	6
Services	299	9	12
Federal, Civilian	147	4	3
Federal, Military	74	2	2
State & Local	307	9	9
Dividends, Interest & Rent	444	13	14
Transfer Payments	370	11	11
Less - Contributions for Social Insurance	135	4	4

PER CENT CHANGE IN INCOME AND POPULATION, 1969-73

	Montana	United States	Montana Growth as a Percentage of U.S. Growth
Total Personal Income	53.2	40.8	+30
Agriculture, Forest & Fisheries	145.1	109.7	+32
Non-Farm	40.3	38.8	+ 4
Manufacturing	30.2	27.1	+11
Mining	37.8	37.9	- 0
Contract Construction	52.3	39.5	+32
Wholesale & Retail Trade	36.5	34.4	+ 6
Finance, Insurance & Real Estate	40.7	37.6	+ 8
Transportation, Communications and Public Utilities	44.6	42.8	+ 4
Services	34.5	38.2	-10
Federal, Civilian	51.5	36.7	+40
Federal, Military	36.3	14.6	+148
State & Local	52.3	53.8	- 3
Dividends, Interest & Rent	26.5	37.8	-30
Transfer Payments	71.3	79.2	-10
Population	3.9	4.2	- 7

PROJECTIONS

MONTANA

	1950	1969	1990	Percent Change 1950-1969	Percent Change 1969-1990
Population, Mid-year	593,000	694,000	664,500	11.7	-4.3
Per Capita Income (1967 Dollars)	2,239	2,932	5,498	31.0	87.5
Total Employment	220,468	254,088	271,000	15.2	6.7
Total Personal Income (1967 Dollars)	1,327,879	2,034,876	3,653,700	53.2	79.6
Total Earnings	1,140,353	1,579,176	2,760,400	38.5	74.8
Agriculture, Forestry, & Fisheries	359,835	252,543	268,600	-29.5	6.4
Non-Farm	780,518	1,326.633	2,491.800	70.0	87.8
Mining	61,301	53,508	60,400	-12.7	12.9
Contract Construction	71,636	100,269	175,900	40.0	75.4
Manufacturing	90,492	176,677	304,600	95.2	72.4
Transportation, Communication, & Public Utilities	116,507	143,317	213,800	23.0	49.1
Wholesale & Retail Trade	198,618	262,428	446,000	32.1	70.0
Finance, Insurance & Real Estate	28,106	60,074	127,800	113.7	112.7
Services	95,681	204,930	486,300	114.2	137.3
Federal Government	42,962	88,754	174,400	106.6	96.5
State & Local Government	60,849	186,696	435,100	206.8	133.1
Federal Military	14,372	49,974	67,000	247.7	34.1

GROWTH: HISTORIC AND PROJECTED, MONTANA AND UNITED STATES

Percent Change

	1950-69		1969-90	
	Montana	United States	Montana	United States
Population, Mid-year	11.7	32.5	-4.3	22.2
Per Capita Income (1967 Dollars)	31.0	66.3	87.5	79.5
Total Employment	15.2	38.0	6.7	34.1
Total Personal Income (1967 Dollars)	53.2	120.5	79.6	119.4
Total Earnings	38.5	115.0	74.8	111.4
Agriculture, Forestry & Fisheries	-29.8	-14.9	6.4	14.6
Non-Farm	70.0	128.1	87.8	115.1
Mining	-12.7	53	12.9	35.1
Contract Construction	40.0	121.9	75.4	107.6
Manufacturing	95.2	116.2	72.4	80.2
Transportation, Communication, & Public Utilities	23.0	82.7	49.1	110.4
Wholesale & Retail Trade	32.1	86.8	70.0	95.9
Finance, Insurance & Real Estate	113.7	164.6	112.7	150.6
Services	114.2	183.7	137.3	186.0
Federal Government	106.6	150.8	96.5	119.0
State & Local Government	206.8	278.9	133.1	163.8
Federal Military	247.7	162.8	34.1	27.3

Recent Cyclical Developments in Montana

The economic situation in Montana has deteriorated sharply over the past four quarters. The slump is mainly a reflection of the nationwide drop in farm income. From the fourth quarter of 1973 -- the peak quarter for the nation in both farm income and in total economic activity -- to the fourth quarter of 1974 -- the most recent period for which state data are available -- farm income both in the state and nationwide fell by more than one-third. Total personal income in Montana is estimated to have risen less than 2 per cent; the U.S. total advanced over 7 per cent, or four times as much.

Only five states reported a weaker performance in this period and each of the five showed an actual decrease in income. Three of them were Old West states -- Nebraska, and the two Dakotas -- and the other two, Kansas and Iowa, are nearby. As in Montana, farm income is an unusually important source of income in each of these states, and there was a sharp drop in agricultural marketing in each.

Consumer Prices

All of the gain in income, for Montana as for the U.S., was offset by higher prices. Real income fell in both cases. This time span was a period of extraordinarily rapid inflation. Consumer prices as measured by the implicit price deflator for personal consumption expenditures rose more than 7 per cent. This figure suggests that real income dropped about 5 per cent in the United States, and may have fallen as much as 10 per

cent in Montana. The latter estimate is subject to a wide margin of error, of course. A real deterioration of anything like one-tenth in Montanans' economic well-being would probably have been much more widely known than has the worsening actually experienced.

Non-Farm Income

While farm income plunged, non-farm income in Montana rose nearly 11 per cent from the closing quarter of 1973 to the closing quarter of 1974. This compares with a U.S. average advance of less than 10 per cent. Most of Montana's major local service industries, in particular, showed substantial gains. It is possible though that the strength in services reflected farmers' spending more of the large incomes they had earned in 1972, 1973 and early 1974. The advance in Montana's non-farm income has about kept pace with the (national) rise in consumer prices, and real non-farm income in the state probably changed little during the year.

Situation as the Winter of 1974-75 Ended

The latest available report from the State Department of Labor and Industry may be summarized as follows:

Montana's unemployment rate was 10 per cent in February, significantly higher than the 8 per cent recorded for the same period a year ago, and the 9 per cent in January 1975. Increases were due largely to the lumber and construction industries, where there has been a loss of 3,000 jobs since last February.

There were 11,000 more persons employed in the state this February than there were a year ago. The manufacturing industries employed 23,000 in February, a decrease of 700 from a year ago and the same number employed as last month.

Non-manufacturing employment in February was 206.7 thousand, a decrease of 800 from the previous month and an increase of 7.8 thousand from last year. Industries showing the largest increase from one year ago were: wholesale and retail trade up 3,000; finance, insurance and real estate, up 800; services, up 2,600; government, 3,300.

Non-agricultural self-employed and unpaid family workers, and domestic workers in private households had 28,300 people employed. This was a 400 decrease from January and the same as was recorded one year ago.

Agricultural employment in February was 29.2 thousand, up both from last month and last year at the same time. Mid-February's index of prices received by farmers and ranchers in the state was down 33 per cent from a year ago. The all-crops index decreased by 23 per cent from February 1974 and the index of livestock and livestock products was 44 per cent below last year. It is anticipated that less spring wheat and barley will be planted this year; however, the all-wheat acreage is expected to be above last year with the large winter wheat plantings of last fall.

What Does All This Suggest for the Year or Two Ahead?

Declining national and international markets for some Montana products are resulting in unemployment in a number of Montana's export industries and in falling incomes for many Montana citizans. Wood products, copper, tourism, and cattle either have been or are likely to be adversely affected. Two other Montana products still in good demand -- wheat and coal -- provide bright spots in what is otherwise a rather bleak picutre.

The decline in the housing market has brought hard times to the wood products industry, always a cyclical activity. Employment in a number of western Montana communities has been severely affected; more layoffs may be in store for industry workers.

Butte's underground copper mines, traditionally high cost operations, are being closed, with a presumably permanent loss of 500 to 600 jobs. Falling demand for copper in housing and automobiles may cause a further curtailment of output.

The new dimension in Montana's mining industry, fraught with problems as well as with promise of new employment, is coal. About 600 new jobs have been added in coal mining since 1970. Further increases are anticipated in the next few years.

The possibility of reduced fuel supplies and/or increased prices, combined with the national recession, may well bring a reduction in tourist travel in 1975. The last few years have

seen heavy investments and cooresponding increases in employment in facilities serving tourists, especially in motels and restaurants. Fewer tourists may mean a loss of some of the new jobs in these businesses, as well as problems for the investors. Certainly the expansion of travel-oriented activities may be at least temporarily curtailed.

Agriculture, still generally a fairly reliable barometer of the state's economic activity, is pulling in two directions. Wheat farming areas are prosperous as wheat prices remain fairly good. Our cattle country is depressed; cattle prices are very low and not likely to improve significantly in the near future. Most of the increase in personal income in Montana since 1972 has been due to dramatic rises in farm prices and thus in farm income. A decline in total farm income at a time when non-agricultural industries are in some difficulty would have an unfortunate effect on Montana's economic fortunes.

Because Montana incomes -- at least in current dollars -- have risen rather rapidly in recent years, state government currently finds itself in good fiscal condition. But wages and salaries paid to public employees eventually must be increased and the costs of goods and other services purchased by government also rise. We suggest that this point has been reached by Montana state government and that future increases in revenue, unless the tax structure is radically altered, may be relatively small.

Regions of the State

Northwestern Montana has seen its earlier fast growth grind to a halt since mid-1974. Lumber demand has receded from its peak and small-mill and service activities in particular slackened. Inventories of cut logs are near rocord levels. The cattle situation has also been a business depressant. Recently auto dealers and certain other retailers have felt the pinch of general belt-tightening by worried consumers: even Christmas tree shipments were affected.

Credit conditions in the Region are reported varying from tight to flexible, and expected to tighten further in the next few months. Some borrowers dependent on the cattle or lumber business are in distress.

The chief immediate problem in Northwestern Montana centers on the demand for wood products. This has fallen sharply in the wake of housing starts, which in turn have been squeezed to a trickle by a nationwide dearth of mortgage money.

The wholesale market for mortgages now shows at least faint signs of reviving. When it does, housing starts usually revive six months or so later.

If this is the course of events in 1975, it may avert a really serious problem in Northwestern Montana. Employment can drop fast and far if lumber market weakness is prolonged. In 1970, the second straight year of a decline in lumber production, Montana employment in the industry dropped 10 per cent. The economic damage was aggravated by the indirect effects on

local businesses; and total unemployment in the northwest rose from 4,800 in January 1970 to a peak of 6,700 a year later. Distress, moreover, was mostly concentrated in such places as Lincoln County, where close to half the population of 18,000 depend on this industry in one way or another.

In certain respects, the Region is better equipped than some to face economic recession. Perhaps most important is the fact that homebuilding itself moves against the business cycle. The faster other business sales and borrowing decline, the sooner credit becomes available for housing and -- normally -- the sooner the demand for Montana lumber should recover.

Then, too, most of the jobs here are in lines of work that typically hold up well when general business slows. Government payrolls, for example, are the largest single source of consumer income. Together with trade (excluding auto dealers, whose business is cyclical) and service enterprises, they account for almost half of total earnings:

Source of Income	Percent of Earned Income
Government	21*
Wood Products	16
Trade (non-auto)	13*
Services	13*
Construction	11
Misc. including public utilities*	26

**Typically stable in recessions*

Northwestern Montana also draws economic strength from the limited amount of diversification it has achieved. The Region has a fair number of substantial employers in each of a number of mutually independent lines of activity -- those mentioned above, and others, too. This makes total employment less vulnerable to a possible drastic decline in any one industry or company payroll. As an individual sort of diversification, also, many workers in Kalispell, Libby and smaller centers have part-time farms to fall back on.

Furthermore, a slack time in winter is a normal part of the way of life in the lumber centers. Reserves are built up for it. Economic hardship due to slow demand for lumber will therefore probably not become serious until after the spring breakup -- though the other end of the tunnel we may enter then is not really in sight.

There is still optimism in the Region. Even in the latter half of 1974, close to 400 new businesses were started in this part of the state. Some already-existing firms, too, see room to grow. Hoerner Waldorf, for one, is proposing a $60 million mill expansion at Frenchtown and a chipper mill to be located in the Flathead Valley. The new strength in the market for chips is a promise for the future as well as a cushion in present adversity.

Such dynamic business attitudes face a special challenge in the west. Because it is known as a pleasant place to live, a steady flow of in-migrants from other states has built up the

labor force faster than the economy has been able to generate jobs. This shows in both the level and the trend of unemployment benefits being paid in Kalispell and Missoula on behalf of other states.

Southwestern Montana, comprising the Helena-Butte-Bozeman triangle, has been expanding moderately ever since 1971. Toward mid-1974, weakness developed in the markets for cattle from Beaverhead County and elsewhere, and sawmill activity began a gradually accelerating slide. Later, the general deterioration of consumer optimism was aggravated locally by the prospective closing of the deep mines at Butte.

From the overall employment statistics, the region as a whole took these setbacks pretty much in its stride at first, though an increasing number of wives have been looking for jobs as the fall wore on. The basic sources of this strength, here as in the northwest, seem to be (1) a certain amount of diversification and (2) a preponderance of stable types of employment.

While its international reputation still rests on its metals, most of Southwestern Montana has in fact long since emancipated itself from the Anaconda Company. The state and federal payrolls at Helena have now made government the area's leading employer. One-fourth of the earned income of the region comes from this source. Trade -- excluding auto dealers, who are in trouble -- and service each contribute around one-eighth. Metal mining and refining together account for about this same fraction and farming for a little less.

The Butte-Anaconda Labor Market Area by itself, though, presents a much different pattern. Here is a comparison based on income estimates for 1972, the latest so far available.

Source of Income	Area Total	Anaconda-Butte L.M.A.
	(percent of earned income)	
Government	25	19
Metals	12	25
Trade (non-auto)	12	13
Services	13	11
Farms	11	9
Rail and Phone	6	4

Among these key sectors, weak spots are in metals, livestock and railroading. Lumber, which is smaller percentagewise, is also depressed. Nearly all the other important sectors of the economy of the southwest are of types that normally hold up well in hard times.

Even some of the exceptions promise to do fairly well, for the moment at least. In the most vulnerable part of the region, the deep mine close-down by Anaconda has been stretched out; the remaining 540 layoffs will be spread over a period of 4 to 6 months. And building activity is strong around Anaconda as well as in Helena, and fairly strong in Bozeman.

Credit conditions in the southwest are tightening and repayment schedules are lengthening not only for cattle but also for retail lines such as autos. Demand for other types

of business and consumer loans is still high, but shows signs of easing off as borrowers' confidence dims. Credit supplies are unlikely to be really adequate for some time to come, though. There are complaints about the state usury law preventing Montana borrowers from competing with out-of-state borrowers for Montana's own loanable funds. Institutional deficiencies in the channeling of short-term loanable funds from large investors to lending agencies are also noted.

More than 350 new buninesses started up in the last half of 1974, though. Investment per business was apparently a little below the state-wide average, perhaps reflecting the shortage of capital and credit. Other current industrial initiatives are typified by a new wood chipper mill at Dillon which will more than double the logging demand in the area. The international terminal in Butte, where three major rail lines join, should give the city increasing prominence as a transportation center besides speeding Montana's future exports and cutting the cost of its imports.

South Central Montana's three-year period of accelerated growth ended around mid-1974, and a cyclical downswing began in early fall.

The regional economy is closely linked to that of Billings. The metropolitan area accounts for two-thirds of all the jobs in the Region. In addition, Billings serves as the transportation hub and as the center for wholesale distribution and for business services. Prosperity there accordingly depends

in part on activity in the surrounding belt of counties, which includes the Lewistown and Hardin -- Red Lodge Labor Market Areas.

In both these areas limited economic growth continued all spring and into the summer before the drop in cattle prices caught up with it. Most recently, business around Lewistown has also been hurt by a drop in the market for construction materials.

While the bad turns in ranching seem to have been the chief single factor in the latest trend of employment for these two labor markets, they have not been bad enough to dominate the trend in Billings. Instead, the city was strong enough to stabilize the Regional economy as a whole through the summer and most of the fall. A vigorous development program over the years has attracted a number of firms to Billings; and out-of-state demand for the area's petroleum products and processed foods has been a continuing source of strength.

Assuming that these markets continue on a growth trend in the months ahead and that the worst has been seen in cattle, business in the metropolitan area may just about match the course of economic activity in the rest of the United States during the national recession now developing.

Taking the Region as a whole, the table below shows a well-balanced industrial structure. Billings might be a little better equipped for probable rough weather ahead on the national front if it were more of a center of governmental activities. Public

payrolls lend less support to consumer purchasing power here than in other regions of Montana, though the percentage is about the same as in the rest of the country.

Source of Income	Percent of Earned Income
Farm	19
Government	16
Trade (non-auto)	16
Services	13
Construction	7

The business community here also seems to share some of the qualms about the future that have driven equity prices down nationally. No more than a couple of hundred new businesses have been started in the past half-year, and most of these were small. Credit is reported a little tight, but this does not seem to be a major stumbling block.

Eastern Montana is still enjoying good business, thanks mainly to wheat. Employment spurted around both Glasgow and Glendive as 1974 opened, and remained strong all year.

Further south, employment gains around Miles City virtually ended after July, but the job market was still steady as winter began.

The Glasgow-Glendive Labor Market Areas include the strongly cattle-oriented western counties of Phillips and Garfield, but are dominated economically by the great grain belt to the east and north. Field crops are three times as

important to economic life here as they are in the rest of the state: the area as a whole gets around one-third of its total spendable income from agriculture.

So does the Miles City Labor Market Area, embracing the cattle parallelogram of Treasure, Rosebud, Custer, Powder River, Fallon and Carter Counties. This area is nearly three times as dependent on livestock as the rest of Montana.

In other respects, these two sections of eastern Montana have a great deal in common. Trade and service industries provide one-quarter of the total income, and government one-sixth, in each section. Transportation accounts for around five per cent; and oil, gas and coal together contribute a similar fraction.

Business is good around Colstrip now, and a useful rivulet of funds for leases and exploration is reported coming into the Glendive area. By and large, though, the mineral wealth of eastern Montana has not yet led to much diversification of the economy. Both northern and southern parts of the Region remain primarily dependent on agriculture.

General business and credit conditions are in line with the regional trends of employment: expansive in the northwest; normal but uneasy in the southeast. Credit supplies are adequate and are being freely utilized. Loans to finance the holdback of wheat as well as cattle for sale after January 1 form a significant part of farm credit.

Overall, the non-cattle sectors might seem to be living at least partly on the momentum of prior years' prosperity.

The tier of three big cattle counties west of the chief labor market centers may well be more vulnerable to the cost-price squeeze in livestock than is the area around the cities. This tier derives less help from good wheat prices than does the northeast, and their economic base seems narrower in general than that of the more populous eastern counties.

North Central Montana, comprising the Shelby-Havre-Great Falls triangle, boasts one of the most nearly recession-proof economies in the state. Employment has been mostly flat all year, apart from the normal seasonal bulge in the summer and slide in the fall. Job market reports through November betrayed no weakness.

From mid-year on, though, the situation was a little like that further south around Billings: business still strong in the big center but beginning to fray at the edges. Labor demand around Havre, in particular, was reported easing after a full 18 months of rapid increase. Railroad spending has been a prop to the economy there, and investment in natural gas production should be a stimulus also if price controls ease.

The industrial structure of the Region is not very vulnerable to out-of-state cyclical pressures. Only about one-tenth of total consumer income is from the kinds of industries that most often get into trouble when hard times arise nationally: 6 per cent is from the manufacture and sale of durables, and 3 per cent from railroading. This one-tenth vulnerability of the Region compares with 16 per cent for the state as a

whole and 25 per cent for the nation.

More important problems for the North Central counties now are water for the crops and customers for the cattle. Field crops are almost twice as important to the economy here as they are in the rest of Montana; and two dry years in a row have taken some of the joy out of the current high selling prices for grain. The drought effect is felt in the northwestern part of the Region particularly.

The business community around Conrad also reports some trouble in digesting all the new firms that were opened to serve the Safeguard project and its people.

Ranching is less important in north central Montana than it is further east, and grazing conditions have been fairly good; but feeders are seeing their equity vanish, and the generally bad cost-price situation for feeders and ranchers alike is putting something of a damper on general business throughout the Region. Both grain growers and ranchers are holding back some shipments. A good deal of wheat in particular is under contract to go after the first of the year, and some is being held in hope of higher prices. Because of such carryovers and because the general inflation of costs is increasing the needs of individual borrowers, credit is at least temporarily rather tight in most centers. Some easing is expected after the holdbacks of grain and cattle end.

MONTANA IN THE OLD WEST REGION

General Setting of the Old West Region

Montana is physically the largest State of the group, nearly 146,000 square miles of varied terrain. Montana is about one-third larger than Wyoming and about twice as large as each of the other three States. The total land area of the Old West approaches 466 million square miles. This is over 13 per cent of the land area of the nation as a whole. Less than 2 per cent of the United States population lives on this land, so its population density is very low. The number of persons living on each square mile of the Old West Region is only 8, compared with a national average of nearly 58.

One portion of the Plains, a flat fertile area located mainly in central and western North Dakota and northern Montana, specializes in growing spring wheat.

Cattle ranching is predominant in the Plains segment lying in western South Dakota, north-western Nebraska and south-eastern Montana. Here the soil and topography are somewhat less congenial to dry-land farming.

Finally, the plains of Wyoming, semi-desert and uneven, feature a mixture of cattle ranching and irrigated agriculture, the latter concentrating upon feed crops for livestock.

While much of the physiography of the Old West is dominated by the Great Plains, the physical features of the area's

eastern-most and western-most segments stand in stark contrast with one another. Eastern North Dakota, South Dakota and Nebraska resemble the Midwest corn belt: level land, fertile soil and a relatively greater amount of rainfall. Indeed, this portion of the Old West is a transition zone between an economy based on feed grains, corn, oats, and livestock feeding, and an economy based on spring wheat and grazing.

On the other hand, the western-most segment of the Old West Region -- in Montana and Wyoming -- is largely forest and mountain terrain. Land uses are far more varied. They include lumbering, migratory grazing, small scale irrigated farming, recreation and mining. In Montana, the latter centers on copper, lead and zinc. Wyoming "mining" features petroleum.

An extensive low-sulfur coal field, the Fort Union formation, underlies eastern Montana and the contiguous areas of the Old West, with the coal close enough to the surface to allow stripping and decisions must soon be made by the state governments about development.

Settlement

The mix of elevated plains, lowlands and mountains that constitutes the Old West was settled relatively late in the nation's history. Total population at the time of the Homestead Act of 1862 was only about 35,000. By 1880, it had increased to more than half a million people; by 1890, another million had come. At the latter date, Nebraska was virtually fully settled. The Dakotas had reached this stage by 1910 and Montana by 1920. Only Wyoming was still "being settled", by

our definition, clear up to World War II.

Between 1920 and 1970, the population in each of the five states grew more slowly than in the nation as a whole. In total, population in the Old West rose 8 per cent over the 50 year period, compared with a gain of 65 per cent in the nation.

In 1970, population in the Region totaled 3.8 million, 1.8 per cent of the United States total. Reflecting the large amount of farming, and more particularly the physiography of the area, 46 per cent of the Region's population lived in rural areas, compared with only 27 per cent in the Nation.

Income Composition and Growth in the Old West

Table 1 shows the per cent distribution of total personal income in the United States, Montana and the four states economically most closely related to Montana: North Dakota, South Dakota, Wyoming and Nebraska. Among the Old West Region, all but Nebraska are economically very small, and sparsely populated. While Wyoming has a population of 300,000, Nebraska, by far the largest state, has a population approaching 1½ million.

Agriculture is a much more important source of income in each of these states than it is in the nation. Over both the very long run (1929-1969) and the medium-term past, post-World War II, this has meant that none of the Old West Region has shared at all fully in the economic growth of the rest of the U.S., which has had its mainspring in off-farm activities.

Agriculture carries the smallest weight in Wyoming, where it provides 8 per cent of total income, but even here it is

TABLE 1

Percent Distribution of Total Personal Income, 1973

	U.S.	Mont.	N.D.	S.D.	Wyo.	Neb.
Total Personal Income	100	100	100	100	100	100
Agriculture,Forest, & Fisheries	4	20	39	33	8	22
Non-Farm, TOTAL	96	80	61	67	92	78
Mining	1	2	1	1	9	0
Contract Construction	5	5	4	4	9	5
Manufacturing	21	7	3	5	5	11
Transportation, Communications & Public Utilities	6	7	4	4	8	6
Wholesale & Retail Trade	13	12	11	11	10	12
Finance-Insurance & Real Estate	4	3	2	2	2	4
Services	12	9	7	7	8	9
Federal Government	5	7	7	6	7	4
State & Local Government	9	9	7	8	11	8
All Other	20	19	15	19	23	19

twice as important as it is in the nation at large. The Old West State with the heaviest dependence on agriculture is North Dakota, which draws 40 per cent of its income from this source. Montana falls about in the middle of this range, with one-fifth of its income derived from agriculture.

Over the very long run (1929-1969) agriculture has been a slow-growing industry both in the nation and in each of the five states. For the United States as a whole, total personal income grew 774 per cent over the forty-year span while farm income grew only 169 per cent.

In 1929, farm income comprised 9 per cent of the United States' total personal income; by 1969, farm's weight had declined to less than 4 per cent of all income.

From 1969 to 1973, farm income spurted in the nation, growing 130 per cent, while total income rose only 40 per cent, and the weight of this income source recovered to nearly 4 per cent of the national total.

However, farm income fell back nearly one-fifth from 1973 to 1974 while total personal income was growing 9 per cent, mostly due to inflation. Thus, in 1974 farming comprised less than 3 per cent of the total United States personal income.

The sharp decline in the importance of farming is evident in the personal income data for each of the five states.

The following text table summarizes the situation, showing farming as a percent of total income in the Old West Region:

	1929	1969	Change
United States	9	4	- 5
Montana	15	11	- 4
North Dakota	36	18	-18
South Dakota	42	19	-23
Wyoming	23	6	-17
Nebraska	33	13	-20

In 1929, Montana depended far less on farm income than any of the other four states. Since then, however, the importance of agriculture has been better maintained in Montana than in any of the other states. By 1969, dependence on this income source had dropped well below Montana's level in Wyoming and almost as low in Nebraska.

Over the long period, 1929 to 1969, farm income in the Old West Region has grown at least as rapidly as it has nationwide. Thus, it seems that the area's farm sector has been holding its own vis-a-vis the same sector in other states. However, this means only that the area has been maintaining its relative share of a slow-growth industry.

Among the five states that make up the Old West, the farm income component has generally been greatest in the Dakotas and smallest in Montana and Wyoming. The differences among the states have been substantial. For instance, in 1969 the share of farm income in total income ranged from about two and one-half times the national share in Wyoming to more than seven and one-half times the national share in South Dakota.

Reflecting the relatively very rapid surge in farm prices

over the 1969-73 period both nationally and in the Old West Region, the share of agriculture in total income moved sharply upward:

	Farming			
	Percent Change 1969-73	Percent of Total Income 1969	1973	Change 1969-73
United States	110	4	4	0
Montana	145	11	20	+ 9
North Dakota	305	18	39	+21
South Dakota	166	19	33	+14
Wyoming	67	6	8	+ 2
Nebraska	144	13	22	+ 9

In everyone of the states where farming was a very important income source in 1969, farm income spurted at an even faster pace than in the Nation. The relative importance of farming to the economies of each of the states increased accordingly. The strength in acriculture, non-farm income rose at least as rapidly in these states as in the nation, overall.

However, 1973 was a highly unusual year for agriculture, for the nation as a whole, as well as in the Old West Region. Detailed data for the states for 1974 are not yet available, but all indications are that the sharp national drop in farm income, off nearly 40 per cent, will be reflected throughout the Old West. Thus, the 1969 weights shown for agriculture in the text table for the various states are probably more typical

of the future as well as the recent past than are the very high figures shown for 1973. As agriculture has grown and probably will continue to grow more slowly than non-farm industry nationally, the declining weight of the industry is probably for these states.

Non-Farm Income

In mirror image of agriculture, non-farm income has become a larger segment of total income of each of the Old West states as well as in the nation as a whole. (See Table 1). The non-farm component has been generally greatest in Wyoming and Montana and least in the Dakotas.

Between 1929 and 1949, non-farm income grew more rapidly in the Dakotas and Wyoming than nationally; and it grew as rapidly in Montana as in the nation. Only in Nebraska did it lag behind the nationwide growth rate during this period.

Between 1949 and 1969, non-farm income grew more slowly in each Old West state than in the nation. Off-farm progress was least in Wyoming and Nebraska in the last two decades. It was greatest in Nebraska.

In short, whereas the area has been able to keep pace with the nation in the relatively slow-growth farm sector, it has failed to maintain its share of the more rapidly growing non-farm sector.

In both 1949 and 1969, mining was larger in Montana and Wyoming than in the nation; by 1969, its share was also above

average in the Dakotas. Manufacturing comprised a much smaller share of total income throughout the Old West that it did nationally, in 1949 and again in 1969.

In both years, wholesale and retail trade generated a larger share of total income regionally than nationally in every one of the Old West states, except Wyoming.

In 1969, contract construction provided a larger share of total income in most parts of the Old West than it did nationally. The Dakotas constituted an exception that year, though they had shown some degree of specialization in this activity. Regional specialization in transportation communications and public utilities characterized all of the Old West states except South Dakota in 1949. In 1969, neither of the Dakotas derived an unusual share of its income from these activities.

Every Old West state showed a positive location quotient for civilian government in both years. Other local-service industry groups consistently showed negative specialization quotients in all five states for services and in all of the states (except Nebraska in 1969) for finance, insurance and real estate.

In summary, in 1969 just as in 1949 the Old West was still showing a marked degree of specialization in such slow growth activities as agriculture, mining, trade and public utilities; and a decided lack of specialization in such fast-growing activities as manufacturing and services. Only in the cases of civilian government and such volatile lines as the armed

forces and contract construction did the area show much specialization in fast-growth activities.

Per Capita Income in the Old West

In 1929, per capita income levels in the Old West states were well under the average for the United States as a whole. Income was lowest in the Dakotas and highest in Wyoming. In Montana and Nebraska, average personal income per person was about 15 per cent below the United States norm. (See Text Table)

During the Great Depression of the 1930's, per capita income fared better in the Old West than elsewhere. With the onset of World War II and the simultaneous boom in demand for agricultural products, income again showed strength in these states. By 1949, it looked much better relative to the overall U.S. level in all of these states than it had in the agricultural doldrums of 1929. Wyoming's per capita was 16 per cent above the United States average -- the highest relative level ever reached in any of these states -- and the rates in Montana and Nebraska were close to the United States average. In the Dakotas, however, per capita income was still 15 per cent below the national norm.

From the end of World War II through 1969, none of the Old West states grew as rapidly as the nation, either in income or population. Growth in non-farm income was particularly stunted, as the exodus of substantial numbers of area residents from the farm tended to diminish the formerly important village markets for service activities relating to farming.

Per Capita Personal Income in the
Old West as a Percent of the
National Average for Selected Years

	1929	1949	1954	1959	1969	1973
United States	100	100	100	100	100	100
Montana	85	100	97	92	85	93
Nebraska	85	94	94	92	96	93
North Dakota	52	82	70	73	82	113
South Dakota	59	79	78	68	79	93
Wyoming	97	116	102	103	92	93

Following substantial declines relative to the nation in the Old West Region during the early 1950's, per capita incomes improved gradually in Nebraska and the Dakotas during the subsequent decade. In contrast, in Wyoming and Montana the relative lag continued during the most recent decade.

By 1969, per capita income ranged from close to the national average in Nebraska to 20 per cent below average in the Dakotas. Per capita income in Wyoming and Montana -- higher than in the other three states historically -- continued to be higher than in the Dakotas but not as much higher as it once had been.

In short, relative per capita income levels in 1969 reveal no really poverty-stricken states within the Old West. However, the fact that levels in the Dakotas particularly have tended to be significantly lower than the national average doesn't augur well for these states' future. Equally dis-

couraging is the tendency over time for Montana and Wyoming to experience declining relative per capita incomes. Nebraska, on the other hand, shows little or no tendency to lag behind the Nation in this respect.

As pointed out above, from 1969 to 1973 farm income in these states rose very rapidly; non-farm income expanded at a moderate pace; and population tended to stabilize or rise slowly.

These developments imply a rapid increase in per capita personal income in each of these states (See Table 2). The income relatives -- per capita income in a state as a per cent of United States per capita income -- in 1973 for each of the states were much closer to the national average than they had been in 1969. In fact, North Dakota was well above average.

Per capita income tends to be unstable in nearly all states with high concentrations of farm income. This makes it impossible to judge, as yet, the permanence of the 1969-73 improvement in the Old West. When 1974 data becomes available, the income relatives will no doubt be much lower, reflecting the decline in farm income. Until farm income spurts again, the 1969 pattern of per capita income relatives will probably prove more representative of the underlying situation than the 1973 pattern (See Table 2).

Conclusion

In summary, living levels -- as measured by per capita income -- are least favorable in the Dakotas and most favorable

in Nebraska. Montana and Wyoming, though relatively high, have been on a downward course in recent years. It is unclear what will be the long term effect, if any, of the recent boom in agriculture.

TABLE 2

Per Capita Income, 1973

	Per Capita Income *(current $)*	Percent of the U.S.	Dollar Differences from U.S.	Rank Among the States
United States	$5,041	0	0	---
Montana	$4,682	- 7	-$357	33
North Dakota	$5,695	+13	+$654	8
South Dakota	$4,713	- 7	-$328	29
Wyoming	$4,413	-12	-$628	30
Nebraska	$5,271	+ 5	+$230	15

Population Trends in the Old West

In 1973, 3.9 million people lived in the Old West -- 1.8 per cent of the national total. Nebraska was the largest state, with a population of 1½ million -- more than 40 per cent of the region's total, but only 0.7 per cent of the total population of the U.S.

Each of the other four states were inhabited by less than a million persons. Wyoming had the smallest population: 340 thousand people. Montana had more than 710 thousand (See Table 3).

During each of the major time periods shown in Tables 3 and 4, population growth in the region has been at least two-thirds under that for the nation as a whole. Only Wyoming and Nebraska have shown much growth since 1920, and even in these states the gains have lagged well behind the national averages. Over the 53-year period covered by the tables, population in the region has grown only half a million, from 3.3 million in 1920 to 3.9 million in 1973. There were actually fewer people in North Dakota in 1973 than there had been in 1920; and the advance in South Dakota was very small.

As can be seen in Tables 3 and 4, all the states of the Old West have lost ground relative to the rest of the United States over the 53-year period. In sum, the region's population fell from 3.1 per cent of the national total in 1920 to 1.8 per cent in 1973. Montana's share was comparatively well maintained. Falling only from 0.5 per cent of the United States total in 1920 to 0.3 per cent in 1973.

Population Characteristics

In the Old West Region, the portion of the population which is white is substantially larger than is the case nationally. Census data for 1970 indicate that 87 per cent of the nation's population is white. In contrast, in every Old West state, the white segment constitutes at least 94 per cent of the total. The great majority of the non-whites are American Indians, who form 2.3 per cent of the region's total. In Montana, there were 27,000 Indians in 1970, 4 per cent of the state's total population. In South Dakota -- the state with

TABLE 3

Population - Old West Region

(Thousands)

	1920	1930	1960	1973
United States	105,711	123,203	180,671	210,369
Montana	549	538	675	713
North Dakota	647	681	632	620
South Dakota	637	693	681	673
Wyoming	194	226	330	341
Nebraska	1,296	1,378	1,411	1,513
OLD WEST TOTAL	3,323	3,516	3,729	3,860

Percent of United States Total

	1920	1930	1960	1973
United States	100	100	100	100
Montana	.5	.4	.4	.3
North Dakota	.6	.6	.3	.3
South Dakota	.6	.6	.4	.3
Wyoming	.2	.2	.2	.2
Nebraska	1.2	1.1	.8	.7
OLD WEST TOTAL	3.1	2.9	2.1	1.8

TABLE 4

Population - Old West Region

	Percent Change			Index-U.S. Percent=100		
	1920-30	1930-60	1960-73	1920-30	1930-60	1960-73
United States	16.5	46.6	16.4	100	100	100
Montana	-2.0	25.5	5.6	-	55	34
North Dakota	5.3	-7.2	-1.9	32	-	-
South Dakota	8.8	-1.7	-1.2	53	-	-
Wyoming	16.5	46.0	3.3	100	99	20
Nebraska	6.3	2.4	7.2	38	5	44
OLD WEST TOTAL	5.8	6.1	3.5	35	13	2

	Number Change		
Montana	-11	137	38
North Dakota	34	-49	-12
South Dakota	56	-12	- 8
Wyoming	32	104	11
Nebraska	82	33	102
OLD WEST TOTAL	192	214	131

the highest proportion of Indians -- they made up nearly 5 per cent of the total population.

There are nearly twice as many American Indians as there are blacks in the Old West Region as a whole. In fact, American Indians outnumber blacks in every one of the Old West states except Nebraska.

Population Density

The fact that the Region's 3.8 million persons are scattered over a total of 466,000 square miles of land means that the area is much more sparsely settled than the Nation as a whole.

Even in Nebraska, the Old West's most densely populated state, population density was only slightly more than one-third that of the nation as a whole. The density in the Dakotas, in turn, was less than half that of Nebraska, and Montana and Wyoming were still less densely populated.

Moreover, throughout the Old West there are vast expanses characterized by densities of less than five persons per square mile. In southwestern North Dakota, western South Dakota, and northern Nebraska, these comparitively uninhabited areas are used primarily for grazing cattle. In Montana and Wyoming, the relatively deserted areas are either range lands or mountains.

On the other hand, the more settled portions of the Old West are the Corn Belt-type lands of the eastern Dakotas and Nebraska, and the fertile Republican, Platte and North Platte

river valleys of southern Nebraska and Wyoming.

In Montana, population per square mile averages 4.8 -- scarcely more than half the region's average. Only Wyoming with an average of 3.8 people per square mile had a lower population density in 1970. Nebraska had the highest density in the region -- 19.4 -- but even here it was only a third of the national average.

Net Migration

In the decade 1960-1970, the Region sustained a net out-migration of nearly 10 per cent. Over that ten year period, the Region lost 360 thousand people to other states.

The losses ranged from a high of 14 per cent in North Dakota -- the most heavily agricultural state in the group and the one with the least manufacturing -- to a low of five per cent in Nebraska -- the most heavily dependent on manufacturing and one of the least agricultural in the group.

Montana's population loss due to migration was 8½ per cent or 58 thousand over the ten years. The rate was well below the average for the Old West. In fact, Montana's rate was the second lowest for any state in the Region.

Net Migration 1960-1970

	Number (thousand)	Rate (percent)
Montana	-58	- 8.6
North Dakota	-94	-14.9
South Dakota	-95	-14.0
Wyoming	-39	-11.9
Nebraska	-73	- 5.2
OLD WEST TOTAL	-360	- 9.7

Other Aspects of Migration Patterns

A number of other important generalizations can be made about migration in the Old West.

1. Migration rates decline as age increases. They are highest among young adults and lowest among the elderly. Education and occupation are modifying factors in determining out-migration; i.e., middle-aged, blue-collar workers with a high school education, tend to be markedly less transient than young, college-educated professional persons. Families with young children are attracted to medium sized, sub-metropolitan communities of 10,000-50,000 population.

2. Patterns of migration relate to the life cycle: heavy after high school graduation, peaking in the 20's, and dropping consistently through all age groups from this peak. Propensity to migrate declines at each stage of family development. At or about retirement age, there is a small increase of residential change. Those leaving generally go to the southwestern states or to Florida.

3. Economic incentives to move seem to be greatest in those of strongest economic position -- the early middle-aged, the well-educated and the white-collar worker.

4. Other important factors include specialized skills, such as electrical engineering. Generally, the more specialized the employment, the more widespread the migration.

5. Salaried workers tend to move relatively frequently, while self-employed move unfrequently.

6. Farmers have particularly low migration rates.

7. Renters move more frequently than owners, and families with children more frequently than those without.

8. In terms of family income, the highest tendency to movement occurs in families with 1969 earnings from about $7 thousand to $10 thousand.

9. Studies indicate that unemployed workers who do not migrate generally are unaware of opportunities elsewhere.

10. Choices are narrow for most prospective migrants; these choices result after much deliveration, but can be triggered by sudden changes of circumstances.

11. For every active immigrant, there are nearly 2 persons who expected to migrate and 4 who would like to migrate. Thus, even attaining zero population growth doesn't stop changes of population as shifts will take place from region to region due to the significant reservoir of "potential" movers.

12. Migration is an American cultural heritage -- migrating is a means of improving one's lifestyle or realizing one's ambitions.

13. Over 20 per cent of all residents in the regions in 1970 had changed county of residence in the previous five years. This is a rate significantly higher than the United States average of 17 per cent. Among the states, the rates ranged from a high of nearly 27 per cent in Wyoming to a low of just under 20 per cent in South Dakota. Montana's rate was just about 20 per cent. Each of the Old West states were above the United States average.

1970 Residence in a Different County than Five Years Ago

	Percent of Total 1970 Population
United States	17.0
Montana	23.9
North Dakota	20.5
South Dakota	19.7
Wyoming	26.5
Nebraska	20.2
OLD WEST TOTAL	21.4

Employment and Unemployment in the Old West

Like Montana, the Old West as a whole has lagged well behind the U.S. in growth of job opportunities over the last two decades. This is a major reason for both the lag in population and total personal income. With few new openings in the Region, young people looking for their first jobs, and farmers and farm laborers leaving the land have had to leave the Old West in order to find employment.

The slow growth in employment in this Region probably reflects the economic structure of the area rather than any desire to leave for warmer, more "hospitable" parts of the country. The out-migration was due to a large "job gap" -- a failure of the labor market to grow fast enough to absorb the natural growth of the labor force.

It has been estimated that for Montana to have averted such net out-migration and rising unemployment, the number of jobs in the state would have had to increase at nearly three times the rate actually attained.

As pointed out in the analysis of total personal income, the Old West specializes in only a few major basic -- or export-type -- industries: agriculture, mining, forest products, and railroading. Though these "primary" industries provide far less than half of the total jobs in the states, they are crucial because it is through export industries that the Region could most readily have profited by prosperity in the rest of the country (without achieving any special dynamism of its own).

In every one of these industries -- mining, agriculture, forest products, and railroads -- national employment has declined sharply since World War II, with the rapid increases in productivity per worker due to technological advances.

Actually, employment in Montana and some of the other Old West states held up better than might reasonably have been expected. Only in mining did the number of jobs in the state fall faster than it did over the nation as a whole. The loss of agricultural jobs was substantially less in Montana, percentage-wise, than it was nationally. Railroad employment fell at about the same rate in Montana as it did nationally, and employment in Montana's wood products industry increased sharply, even while forest products declined nationally.

Nonetheless, the state's overall employment in these critical primary industries dropped substantially during the fifties, and remained about constant during the sixties. Most of the growth of primary employment in other states came in manufacturing industries that are either missing entirely or not very important in this State.

As Tables 5 and 6 show, total employment in Montana grew by only 8 per cent from 1950 to 1959 -- a rate of gain about half the national average of 15½ per cent but well above the gain of 3¼ per cent in the Old West as a whole. During the fifties, the job market actually contracted in northern South Dakota -- the most heavily agricultural of the group. The job gain in Montana -- small as it was compared to the

national average -- was still the best attained by any Old West state.

During the sixties, there was a general speedup in new job generation, both nationally and locally. Reflecting at first the vigorous growth in the civilian economy and then the economic stimulation of the Viet Nam War, employment nationwide expanded to nearly 20 per cent. This very large gain was made possible partly by absorption of the previously unemployed and partly by sharply higher rates of new entrants to the labor force, which reflected the "baby boom" of the period following World War II.

Employment also increased in the Old West; compared to the sorry experience of the fifties, the improvement was even greater here than elsewhere. Whereas two of the Old Wast states had lost jobs in the previous decade, all gained jobs in the 1959-70 period. The expansion of only a little more than 3 per cent in the earliest (1950-59) period had been only one-fifth as fast as in the Nation. With a gain of 6½ per cent in the 1959-70 period, growth in the Old West was equal to one-third of the national average.

Montana did not share in the Region's modest employment spurt during the sixties. In fact, labor market growth here fell back from an 8¼ per cent decade rate in the 1950-59 period to a 6 3/4 per cent rate in the longer 1959-70 period. (See Table 5). Even so, of all the Old West states, only Nebraska topped this 6 3/4 per cent.

TABLE 5

Total Employment
Montana and Old West Region

(Thousand)

	1950	1959	1970	As a Percent of U.S. 1950	1959	1970
United States	57,475	66,373	79,307	100	100	100
Montana	220	238	254	.4	.4	.3
North Dakota	223	218	219	.4	.3	.3
South Dakota	245	243	250	.4	.4	.3
Wyoming	115	123	129	.2	.2	.2
Nebraska	515	540	598	.9	.8	.8
SUB-TOTAL OLD WEST	1,318	1,362	1,450	2.3	2.1	1.8

Number Change in Total
Employment (Thousands)

	1950-59	1959-70
United States	8,898	12,934
Montana	18	16
North Dakota	-5	1
South Dakota	-2	7
Wyoming	8	6
Nebraska	25	58
SUB-TOTAL OLD WEST	44	88

TABLE 6

Total Employment
Montana and Old West Region

	1950-59	Percent 1950-70	Change 1950-70	Index-U.S. 1950-59	Percent 1959-70	Change =100 1950-70
United States	155	19.5	38.0	100	100	100
Montana	8.2	6.7	15.5	53	34	41
North Dakota	-2.2	.5	-1.8	-	3	-
South Dakota	- .8	2.9	2.0	-	15	5
Wyoming	7.0	4.9	12.2	45	25	32
Nebraska	4.9	10.7	16.1	32	55	42
OLD WEST	3.3	6.5	10.0	21	33	26

Although the rate percent of employment growth did slow appreciably in Montana after 1959, the actual number of new jobs opening up was not so much different in the later period. The decline in the percentage rate of expansion reflected in appreciable part nothing more than the growing base on which the change was computed. From 1950 to 1959, the actual number of jobs in Montana rose 18 thousand, the gain from 1959 to 1970 was 16 thousand.

Employment 1970-73

No very current data on total employment in the Old West are available. However, the numbers of employees on non-agricultural payrolls are published for each state by the Bureau of Labor Statistics. While this source excludes the important farm sector of the economy, the data still allows one to update somewhat the foregoing picture of conditions in the Region. (See Table 7).

As in Montana, the number of non-farm jobs expanded relatively rapidly in all the Old West states after 1970 and through the cyclical peak year of 1973.

As in Montana, growth in the area as a whole was over 12 per cent, well above the nationwide gain of 8¼ per cent.

The largest advances were registered in South Dakota and Wyoming, where they amounted to over 15½ per cent in each case. Every other Old West state also showed well above average expansion. The smallest gain -- just under 10 per cent -- was registered in Nebraska.

TABLE 7

EMPLOYEES ON PAYROLLS OF NON-AGRICULTURAL FIRMS
Payrolls, 1970 and 1973 (Thousands)

	1970	1973	Change Percent	Change Number
United States	70,920	76,833	8.3	5,913
Montana	201	226	12.4	25
North Dakota	163	183	12.3	20
South Dakota	177	205	15.8	28
Wyoming	109	126	15.6	17
Nebraska	482	529	9.8	47
OLD WEST TOTAL	1,132	1,269	12.1	137

In Montana, the number of non-farm jobs grew by 25,000; this was sufficient to absorb new entrants to the labor force and those leaving the farms, so that unemployment changed little over this three year span.

Employment in the Old West as a whole increased by 137 thousand. The largest gain, of course, was in Nebraska -- 47 thousand. The smallest were in Wyoming and South Dakota -- about 20 thousand each.

The sharpest gains in Montana continued to be in local service industries, rather than in export industries. Reflecting the good years in agriculture, farm employment apparently leveled off during the early seventies.

There was a good sized gain in wood products and another in Federal payrolls. Some strength can also be noted in mining, with current indications that employment in the coal fields will increase at least enough to offset the contraction in copper mining.

In local-service type industries, there were large gains in trade and services and the financial-insurance-real estate group.

Employment, January, 1974 to January, 1975

Employment growth has remained suprisingly strong in both the five state region and in Montana over the past year, despite the big drop in real output and in farm income in the nation. From the fourth quarter of 1973 to the fourth quarter of 1974, real gross national product dropped five per cent in

the Nation -- one of the sharpest declines of the post-war period. During the same time span, farm income dropped about 40 per cent. By February, farm income was off another 20 per cent and there were indications of another substantial drop in the national output of non-farm goods and services. However, as recently as the middle of the first quarter of 1975, there were indications that the economies of the Old West states were holding up well. So far, at least, these states seem not to have suffered such large declines in employment and increases in unemployment as have been registered elsewhere. These states are profiting now from the slightness of their dependence on most of the industries (autos, textiles, apparel, chemicals, steel, etc.) that have been affected by the recession.

In January, 1975 the number of employees on non-farm payrolls in the Old West Region totaled 1.3 million, a gain of 4 per cent (or 52 thousand) from a year before. Over the same 12 months, employment in the nation dropped by one per cent.

The gain in Montana was 11 thousand (or 5 per cent) to a Januray, 1975 total of 232 thousand. Despite this substantial increase, however, unemployment spurted also, reflecting a wave of additions to the labor force.

The gain in the other Old West states ranged from a low of 2 per cent (11 thousand) in Nebraska, to a high of 7 per cent (14 thousand) in South Dakota. Except for Nebraska, none of these states registered a rise of less than 5 per cent.

TABLE 8

Employees on Payrolls of Non-Agricultural Firms
January, 1974 and January, 1975
(not seasonally adjusted)

(Thousands)

	January 1974	January 1975	Change	
			Percent	Number
United States	76,837	76,126	-.9	-711
Montana	221	232	5.0	11
North Dakota	180	189	5.0	9
South Dakota	203	217	7.0	14
Wyoming	126	133	5.6	7
Nebraska	532	543	2.1	11
OLD WEST TOTAL	1,262	1,314	4.1	52

Unemployment in the Old West - 1959-1973

In 1973 -- the most recent "normally" prosperous year in the current business cycle -- Montana's unemployment rate was substantially higher than that in the nation or in any of the other four states comprising the Old West. (See Table 9). In fact, only 5 of the 50 states had as high a rate as Montana.

At 6.4 per cent, the total unemployment rate here was about 1½ percentage points above the United States average of 4.9 per cent. It was also 1½ percentage points above the rate in North Dakota, which had the next highest rate among the Old West states. Unemployment in the other three states in the Region was somewhat under 3½ per cent, and well under the national average. (See Table 9)

During the last decade and a half, the unemployment rate in Montana has consistently remained above those of the other Old West states as well as the national average. The rates in most of the other four states have been well under the United States average rate. The only exception is in North Dakota, where the state and national rate approximated each other in several years.

Twenty thousand job seekers were out of work in Montana in 1973 -- up five thousand from the total number of unemployed in 1959 and again in 1969. Three of the four other states in the Region had fewer unsuccessful job hunters. Only Nebraska -- with its much larger economy and number of employed -- had a few more looking for work than did Montana.

In that peak year, as for well over a decade past, Montana had by far the most serious unemployment problem in the Old West and one of the worst in the country.

Unemployment in February, 1974 and February, 1975

Figures on total unemployment are prepared and published currently on a basis that is consistently the same for all states. Even the 1974 annual data on total unemployment and the total unemployment rates for the year 1974 are not yet available by states.

However, current data on insured unemployment for each of the states and the nation are published by the Bureau of Labor Statistics. While these numbers are not quite as useful as the statistics on total unemployment, they do allow the analyst to see the broad outlines of what has been happening in the Old West through the mid-winter of 1974-1975.

There are four main weaknesses in the insured unemployment data. (1) Not everyone is covered. In particular, the self-employed are excluded and coverage of the farm population is somewhat spotty; (2) when workers exhaust their benefits, they are dropped from the rolls and the count. However, most of the states and the national government have enacted supplemental benefit programs and the number of unemployed exhausting benefits, so far, is statistically low. (Of course, the individual worker and his family may suffer greatly even though he is part of a "statistically low" group); (3) new entrants to the labor force are not covered; and (4) the data are not seasonally adjusted.

TABLE 9

Total Unemployment Rate

(Percent)

	1959	1969	1970	1973
United States	5.5	3.5	4.9	4.9
Montana	5.9	5.6	6.6	6.4
North Dakota	4.1	3.8	4.1	4.8
South Dakota	2.7	2.8	3.3	3.3
Wyoming	NA	4.1	4.4	3.4
Nebraska	2.8	2.2	2.8	3.2

Total Number of Unemployed

(Thousands)

	1959	1969	1970	1973
United States	3,740	2,831	4,088	4,304
Montana	15	16	19	20
North Dakota	11	10	11	13
South Dakota	7	8	9	5
Wyoming	NA	6	6	6
Nebraska	18	15	19	23
OLD WEST TOTAL	NA	55	64	71

Differences (Percentage Points)

Montana-United States	.4	2.0	1.7	1.5

TABLE 10

Insured Unemployment

(not seasonally adjusted)

	Rate (Percent) February 1974	Febraury 1975	Percentage Point Change
United States	4.2	7.6	3.4
Montana	6.4	9.0	2.6
North Dakota	5.5	5.1	-.4
South Dakota	3.2	3.3	.1
Wyoming	2.3	3.9	1.6
Nebraska	3.1	5.4	2.3

Number of Unemployed

(Thousands)

	February 1974	February 1975	Change Number	Percent
United States	2,656	5,036	1,380	90
Montana	10	15	5	50
North Dakota	7	7	0	0
South Dakota	4	5	1	25
Wyoming	2	4	2	100
Nebraska	13	23	10	77
OLD WEST TOTAL	36	54	18	50

While insured unemployment in the Old West has risen over the latest twelve-month period, both the advance and the new levels reached in February, 1975 are still well below the United States average. The insured unemployment rate rose 3½ percentage points in the nation, but the change in each of the Old West states was considerally under this. (See Table 10). In fact, in North Dakota the rate of insured unemployment actually dropped. It must be remembered too that these figures are not seasonally adjusted, and so they reflect the usual winter peaks in unemployment. If the recession deepens in the nation as a whole, however, the situation could deteriorate here.

The absolute level of unemployment was also low -- well under the national average -- in four of the Old West states. The national rate this February was 7½ per cent. The corresponding figures for the states in this Region varied from a low of 3 1/3 per cent in South Dakota to somewhat above 5 per cent in North Dakota and Nebraska. Only in Montana was the rate above the United States average, and at 9 per cent in Montana it was 1½ points above the national norm. Even so, it had not risen as rapidly here as it had in the rest of the United States. The increase over the twelve months was 2½ per cent in Montana compared to 3½ per cent nationally. The advance in Montana was, however, the second greatest in the Old West.

The absolute number of insured unemployed has risen by 18 thousand in the Region as a whole. Though there was little

change in the Dakotas and Wyoming, Montana suffered a rise of 5 thousand and Nebraska reported unemployment up 10 thousand. (See Table 10).

The relatively small increases of unemployment in the Old West reflects in part the substantial resistance of many of their chief industries and income structures to the impact of national boom and bust. (See Table 1). Other sources of stability over this past year include the strength in demand for domestically produced fuel, and the very high levels farm income reached in 1972, 1973 and early 1974.

As pointed out above, employment in the Old West has grown counter-cyclically by 52 thousand over the past year while it has been dipping in the nation. This gain in jobs has absorbed a large part of the increasing labor force in the area. (See Table 8).

Current Situation

Employment has continued to increase moderately in the Old West. Unemployment has remained fairly low, after a cyclical rise which by national standards has been quite limited.

Nevertheless the Region faces fundamental economic and social problems. It is the common wisdom, and an article of faith among the regional economists, that these problems have been created by outside forces and state governments are only able to affect them slightly if at all.

Actions taken within the Region can hardly be expected to cure the sluggishness of the national and international

markets for our traditional cash crops. Furthermore, these markets have been largely immune to the rigors of the national business cycles throughout the post-war period; the regional economy has been correspondingly stable; and officials here are not experienced in dealing with the effects of deep nationwide recession.

The current unemployment problems are most serious and pressing in Montana and Nebraska and, so far, least serious in North and South Dakota.

The most buoyant sections of Montana's economy during the early seventies have been coal and wheat. Over the past five years, over 600 new jobs have opened in the coal fields. Wheat has also held up well -- both in price and volume of marketing. The wheat farming sections of the Old West are still prosperous.

Partially offsetting the economic conditions in wheat farming and coal mining have been drastic declines in income from cattle and farming, and a drop of more than 500 jobs in copper mining. Cattle ranching had been a growing source of income for a decade -- expanding in spectacular fashion in the early seventies -- and reaching a very high peak in 1973. Since then, not only have prices fallen drastically, but production costs have soared, placing the rancher in an intolerable cost-price squeeze. The wood products industry has also been adversely effected by the precipitous drop in home construction nationwide, and secondarily by falling exports, especially to Japan.

Tourism is also vulnerable to recession. However, it held up well -- or even expanded -- through the first quarter of 1975. This is shown by data from the warm tourist states (especially Florida, Hawaii, Arizona and California) and from the skiing states such as New Hampshire, Vermont, Colorado, Maine, Idaho and upstate New York. However, it will be well into the summer before one can judge the effects of the recession on the major tourist industries in Wyoming and Montana.

Superimposed on the troubles brought into the Region from outside by world-wide recession, fuel crises, and general rapid inflation are the longer-run problems of undynamic industrial structure and resultant slow growth. With the rapid decline in farm income over the last five quarters, stagnation again faces the Old West.

Projections for the Old West - Total Personal Income

Mainly because of the slowness in the growth of agriculture, economic activity in each of the Old West states is projected to continue upward at a rate well short of the United States average. Over the next two decades (1969-1990) the Department of Commerce has estimated that total personal income, income in constant dollars, will rise by 120 per cent in the United States. (See Tables 11 and 12).

The largest gain forecast for the Old West is for Nebraska, where total income is expected to rise 92 per cent. Even this figure is nearly one-fourth less than the national average.

TABLE 11

Projections - Total Personal Income

(Millions of 1967 Dollars)

	1969	1990	Percent Change	Index of Percent Change; U.S.=100
United States	691,451	1,517,173	119	100
Montana	2,035	3,654	80	67
North Dakota	1,730	2,917	69	58
South Dakota	1,852	3,384	83	70
Wyoming	1,041	1,947	87	73
Nebraska	4,914	9,450	92	77
OLD WEST TOTAL	11,572	21,352	85	71

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OLD WEST TOTAL	11,572	21,352	85	71

At the other end of the scale, income may rise less than 70 per cent in North Dakota, where agriculture predominates to a greater extent than in any of the other four states.

Montana's projected gain of 80 per cent in total personal income is about in the middle of the range for the Old West. Because Nebraska accounts for nearly half the total income of the entire Region, its relatively strong trend dominates that of the Region as a whole, and raises the projected regional growth rate to 85 per cent -- a gain somewhat above that forecast for Montana.

It must be noted that these projections were prepared before the Arab oil embargo, the ensuing four-fold price increase for oil, and the start of "Project Independence". They represent a baseline forecast of the economic future to be expected without a major development of the Region's coal resources.

Unless coal mining and processing does develop in line with its potential, and unless agriculture grows more rapidly, than past experience gives us any right to expect, or unless there is some other major new development that the economists who prepared the projections could not foresee, the growth in economic activity in the Old West as a whole will continue to lag well behind the national average.

The use of Table 1 and Table 12 allow the analyst to construct a rough calculation of the impact of the national pattern of industry growth rates for any one of the Old West states. (See Table 1).

TABLE 12

Projections - United States
(1967 Dollars)

	Percent Change	
	1950-1959	1969-1990
Population	33	22
Per Capita Income	66	80
Employment	38	34
Total Personal Income	121	119
Total Earnings	115	111
Agriculture, Forestry and Fisheries	-15	10
Mining	5	35
Contract Construction	122	108
Manufacturing	116	80
Lumber Products and Furniture	NA	64
Transportation, Communications and Public Utilities	83	110
Wholesale and Retail Trade	87	97
Financial - Insurance and Real Estate	165	151
Services	184	186
Government	215	130

Population - Table 13

Reflecting the slow overall expansion in business activity, the resulting slow growth in non-farm jobs, and the continued softness in agriculture, population in the Old West Region is forecast to remain about level over the 1969-90 period. In contrast to the forecast of a 22 per cent rise for the United States as a whole (from 201 million in 1969 to 246 million in 1990) the population of the Old West is forecast as stable at about 3 3/4 million.

Among the states composing the Region, changes in population are expected to range from a decline of nearly 10 per cent in North Dakota to a gain of more than 5 per cent in Nebraska. North Dakota is one of the most rural states in the group while Nebraska is one of the least rural, and the nearly horizontal trend of the chief rural activity is a key to the population declines or very slow rates of growth in these states.

If the number of jobs on farms continues to decrease -- even at a slower rate than in the past -- workers and their families leaving the farms will probably not find enough non-farm jobs in the Old West. If more non-farm jobs do continue to open up in other states, specializing in more dynamic industries, out-migration from most of these states can clearly be expected to persist.

The result for the population of Montana would be a decline of 4 per cent, from about 694 thousand in 1969 to 665 thousand in 1990. This rate of decline is somewhat more severe than for the Old West as a whole.

TABLE 13

Projections - Populations

(Thousands)

	1969	1990	Percent Change	Number Change
United States	201,298	246,039	+22	44,741
Montana	694	665	-4	-29
North Dakota	621	563	-9	-58
South Dakota	668	648	-3	-20
Wyoming	329	334	+2	5
Nebraska	1,474	1,557	+6	83
OLD WEST TOTAL	3,786	3,767	-1	-19

Per Capita Personal Income - Table 14 and 15

Large gains in real per capita income are forecast for each of the Old West states, if the shortfall in total income growth can be kept within bounds despite the relative weakness in population trends.

By 1990, per capita income is forecast to average $5,668 -- an advance of 82 per cent compared with a gain of 80 per cent for the United States as a whole. In 1969, per capita income in these states was 11 per cent under the United States average; by 1990, it is expected to be only 8 per cent under.

Montana's per capita income is expected to rise 88 per cent from 1969 to 1990 -- a rate of gain well above both that in the nation and in the Region. By 1990, average income in the state is expected to approach $5,500 -- only 11 per cent less than the United States average. In 1969, the shortfall had been 15 per cent.

Among the Old West, the most rapid improvement may well occur in the Dakotas -- the states with the lowest per capita incomes in the base year of 1969.

Employment - Table 16

While employment should grow vigorously in the United States over the coming two decades, the forecast gains expected in the Old West are all fairly small.

For the nation as a whole, the Department of Commerce expects more than 106 million jobs in 1990 -- a gain of more

TABLE 14

Projections - Per Capita Income
(1967 Dollars)

	1969	1990	Percent Change	Index
United States	3,434	6,166	80	100
Montana	2,932	5,498	88	110
North Dakota	2,785	5,177	86	108
South Dakota	2,772	5,227	89	111
Wyoming	3,165	5,828	84	105
Nebraska	3,334	6,069	82	102
OLD WEST TOTAL	3,057	5,668	85	106

	Per Capita Relatives	
United States	100	100
Montana	85	89
North Dakota	81	84
South Dakota	81	85
Wyoming	92	98
Nebraska	97	98
OLD WEST AVERAGE	89	92

TABLE 15

Per Capita Income, 1990
(1967 Dollars)

	Per Capita Income	Percent of the U.S.	Dollar Differences from U.S.	Rank Among the States
United States	6,166	0	0	--
Montana	5,498	-11	-668	32
North Dakota	5,177	-16	-989	39
South Dakota	5,227	-15	-939	39
Wyoming	5,828	- 5	-338	26
Nebraska	6,069	- 2	- 97	18
OLD WEST TOTAL	5,668	- 8	-498	--

than 27 million or 34 per cent from the 1969 total.

Among the Old West, the best projected gain is 45 per cent for Nebraska -- the largest economically, most committed to manufacturing and one of the least rural states in the group. At the other end of the scale is a low forecast of only 4 per cent for North Dakota -- one of the economically smaller states, most heavily agricultural, and most rural state.

In total, jobs in the Old West are forecast to increase by somewhat less than 150 thousand. This is a gain of 10 per cent -- a rate of advance more than 70 per cent less than that expected for the United States.

In 1969, there were 1,450 thousand jobs in the Region; in 1990, the forecast calls for just under 1,600 thousand.

Montana is expected to show one of the slower employment growth rates in the Old West Region. Job openings here may increase by less than 7 per cent or 17 thousand, from over 250 thousand in 1969 to barely over 270 thousand in 1990.

In Montana, as in the other states of the group, the heavy importance of agriculture combined with its slow growth acts to hold back employment growth. The number of jobs in establishments servicing the farm business and the farm population like the number in agriculture proper may well contract slowly through most of the forecast period.

TABLE 16

Projections - Employment

(Thousands)

	1969	1990	Percent Change	Index, U.S. Percent Change=100	Numbers Change
United States	79,307	106,388	34.1	100	27,081
Montana	254	271	6.7	20	17
North Dakota	219	222	1.4	4	3
South Dakota	250	268	7.2	21	18
Wyoming	129	142	10.1	30	13
Nebraska	598	690	15.4	45	92
OLD WEST TOTAL	1,450	1,593	9.9	29	143

Some Social Indicators

Health Care in Montana and the Old West

Number of Physicians

Doctors are scarce in Montana and in the Old West generally. In 1972, the most recent period for which comparative data are available, Montana had under 800 private physicians. This was only 111 physicians for every 100,000 inhabitants -- a rate 30 per cent below the United States average rate of 160 per 100,000. However, Montana's rate was a bit above the Old West average of 106 doctors per 100,000 inhabitants.

It is typical all over the country, of course, for rural, sparsely populated areas to have fewer physicians per person than large metropolitan areas.

When the patient load is low and widely scattered it is inevitably difficult to support specialized and intensive medical care facilities and to attract large numbers of physicians (especially those wishing to enter highly skilled specialities.) In addition, fewer medical students are entering the field of general practice these days, and this is precisely the class of practitioners the Region most needs and can best afford.

All five of our States feel the shortage. Even in Nebraska, which is best off, there are only about 122 physicians

TABLE 17

Active Physicians per 100,000 Residents, 1972

	Rate per 100,000 Residents	State Rate as a Per Cent of United States Rate
United States	160	100
Montana	111	69
North Dakota	102	64
South Dakota	90	56
Wyoming	105	66
Nebraska	122	76
Old West total*	106*	66

*Simple average of the states

for every 100,000 residents. This is the state with the lowest percentage of rural inhabitants and the highest population density of the group, yet the physician rate is one-fourth under the United States average.

The lowest rate is recorded in South Dakota -- one of the most rural and least densely populated States in the group. Here there are only 90 physicians per 100,000 population -- a rate not much more than half the nationwide average. Montana's ratio is well above South Dakota's but somewhat below Nebraska's.

Among the fifty States, three-fourths have more physicians per 100,000 population than Montana. South Dakota was very low on the list, and Nebraska's ranking was only fair.

Hospital and Other Health Care Facilities

Montana and the other 4 states of the region are relatively not ill-supplied with hospitals. This is a pattern found in many rural states: low physician-population ratios, but high hospital-population ratios.

Montana had 3,841 community beds in hospitals in 1969 (See Table 18). This works out to 5.6 beds per thousand inhabitants -- a ratio one-third better than the national average of 4.1 per thousand population. Only 5 states out of the 50 had higher rates per thousand population.

TABLE 18

Community Hospitals: Number of Beds & Rate per 1,000 Residents, 1969

	Number	Beds per 1,000 Residents	State Rate as a Per Cent of United States Total Rate	Rank Among the States
United States	825,795	4.14	100	---
Montana	3,841	5.58	135	6
North Dakota	3,891	6.45	156	2
South Dakota	3,343	5.12	124	9
Wyoming	1,825	5.76	139	4
Nebraska	8,922	6.21	150	3
Old West total	21,822	5.82	141	---

*Simple average of the state amounts

TABLE 19

Nursing Homes: Number of Beds & Rate per 1,000 Population, 1969

	Number	Beds, Rates per 1,000 Residents	Rate as a Per Cent of U.S. Average
United States	748,747	3.75	100
Montana	2,400	3.49	93
North Dakota	2,696	4.39	117
South Dakota	4,047	6.20	165
Wyoming	979	3.09	82
Nebraska	7,159	4.98	133
Old West total	17,231	4.43*	118

*Simple average of the states amounts

Extended Care Facilities: Number of Beds and Rate per 1,000 Population, 1969

	Number	Rate	Rate as a Per Cent
United States	341,271	17.3	100
Montana	1,024	14.8	86
North Dakota	1,132	16.9	98
South Dakota	1,065	13.2	76
Wyoming	211	6.9	40
Nebraska	2,204	12.1	70
Old West total*	5,636	12.8*	74

*Simple average of the states amounts

Each of the other 4 states in the Old West also had high ratios; in fact, Montana's rate was somewhat below the Region-wide average. The highest ratio was in North Dakota, with 6.4 beds per thousand; the lowest ratio was in South Dakota with just over 5. Even South Dakota's ratio was one-fourth above the United States average, and the State ranked 9th highest in the Nation.

Nursing Homes

Montana fares less well when it comes to nursing homes. Its 2,400 beds represent only 3.5 per thousand population. This is fractionally below the United States average of 3.8 and well below the Old West Region's rate of 4.4 (see Table 19). With the exception of Wyoming, all other states in the Region had high rates.

Montana also had somewhat less by way of extended care facilities than the national average. With 1,024 extended care beds in such facilities in 1967, Montana's rate was only about 15 beds per thousand residents, about one-sixth under the national rate (see Table 19). However, Montana's rate of 15 compared favorably with the 5-state Regional average of about 13. The states of the Old West ranged from a low rate of 7 in Wyoming (60 per cent below the national average) to a high of 17 in North Dakota; a rate close to the national norm.

Hospital Expenses

It was relatively inexpensive to be sick in a Montana hospital in 1969. Average expenses per patient day in an

average hospital totaled only $51, one-fourth less than the United States average of nearly $70. Among the states, only 4 had lower rates.

Hospital Expenses Per Patient Day, 1969

	Amount	State as a Per Cent of the U.S.	Rank Among the States
United States	$69.93	100	---
Montana	51.13	73	46
North Dakota	51.28	73	45
South Dakota	47.58	68	50
Wyoming	46.50	66	51
Nebraska	52.47	75	42
Old West total	49.79*	71*	---

*Simple average of the states

Hospital expenses per patient-day were low throughout the Old West, averaging only $50. All of the states were grouped close to Montana's low level. The lowest in the group was Wyoming with an average of $46.50; the highest was Nebraska with an average of $52.50. Each of the five states, like Montana, was at least one-fourth under the national average.

Nationwide, the expense of a day of hospital care ranged from $93 in California to a low of $46 in Wyoming. Costs of other medical services are not available on a state basis, but

the Social Security Administration believes they probably follow a similar pattern. If this is true, Montanans have notable low health care costs compared with the Nation.

Average Health Care Spending Under Public Programs

Per capita personal health care expenditures under public programs averaged $85 per year in Montana in 1969. This was a little below the United States average of $91 but not much different from the Old West average of $86. All of the five Old West states were within ten per cent of the national average and thus rank in the top half of the Nation (see Table 20).

Montana has a slightly higher proportion of older people than the country as a whole: 9.8 per cent over 65 as compared with a nationwide average of 9.6.

Reflecting in large part expanding Federal programs, spending rose very rapidly in Montana and the Old West, as elsewhere, between 1966 and 1969 (see Table 20). The most important change within the public sector during the 3-year period was the addition of the Medicare Program. This quickly became the largest public contributor to personal health care costs. Medicare had the effect of raising the level of expenditures in all states as well as taking over some of the former spending by other public programs on behalf of aged beneficiaries. Its effects were felt more in some states than in others. Per capita outlays rose 124 per cent in Montana, 132 per cent nationwide, 95 per cent in the Old West as a whole. A very small gain in

TABLE 20

Per Capita Personal Health Care Expenditures
Under Public Programs, 1966 and 1969

	Per Capita Public Expenditures 1966	1969	Per Cent Change	Expenditure as a Per Cent of U.S. Average, 1969	Rank Among the States 1969 Expenditures
United States	$39	$91	132	100	---
Montana	38	85	124	93	18
North Dakota	39	85	124	93	17
South Dakota	44	92	109	101	12
Wyoming	60	84	39	92	21
Nebraska	38	83	118	91	23
Old West total*	44*	86*	95	95	---

*Simple average of the states amounts

Wyoming (less than 40 per cent) held down the unweighted average gain shown in Table 20 for the Region.

Nurses

From the text table below it can be seen that the number of nurses per 100,000 population is a bit higher in Montana than it is in the Old West generally, and substantially above the average for the United States at large.

Nurses Per 100,000 Population, 1972

	Rate	As a Per Cent of U.S. Rate
United States	382	100
Montana	455	119
North Dakota	455	119
South Dakota	463	121
Wyoming	428	112
Nebraska	445	116
Old West average	449*	118

*Simple average of the states

Not only is Montana's rate higher than the United States average, but the nurse rate in every other state of this Region is higher than the national rate. To some extent, nurses may help to eke out our scanty supply of physicians in providing Montana and the Old West generally with medical care. Too, our

use of hospitals must be high because physicians cannot reach distant areas and scattered populations, and this fact in itself means that a relatively larger number of nurses are needed to take care of the hospitalized patients.

Number of Dentists

At last count Montana had a shade less than its proportionate share of dentists. As the text table shows, in 1972 we had 44 dentists per 100,000 population compared with a United States average of 47.

Dentists Per 100,000 Population, 1972

	Rate	Rate as a Per Cent of United States Rate
United States	47	100
Montana	44	94
North Dakota	38	81
South Dakota	34	72
Wyoming	46	98
Nebraska	54	115
Old West average	43*	91

*Simple average of the states

The situation with respect to dentists is thus much better than with physicians. Nebraska had more dentists than the

national average, and Wyoming came close, but Montana and the Dakotas were well below average. In such states it is probably again the low population density and the other rural characteristics that hold the number of dentists down.

Mortality Rates

Death rates are one measure of the efficiency and effectiveness of health care.

Estimated Death Rates per Thousand Population
1972 (preliminary)

	Rate	State Rate as Per Cent of U.S. Rate
United States	9.4	100
Montana	9.5	101
North Dakota	9.2	98
South Dakota	10.4	111
Wyoming	8.7	93
Nebraska	10.2	109
Old West average	9.6*	102

*Simple average of the states

While mortality rates reflect many other factors besides health care, it is interesting to note that the rate in Montana fully matches the national average. The rate in Wyoming is well

below the average; and the mortality rate in South Dakota is far worse than average.

In four of the five states infant mortality rates within the white population have exceeded the national norms for the white population.

In contrast, the rates within the non-white population have mostly been below the national average for non-white groups.

Even though the Old West does better by its minorities than the nation at large, infant mortality has been a far more serious problem for our Indians than within our white population. The non-white rate has ranged 40 per cent higher than the white rate in Wyoming and it has run as much as twice the rate for whites.

Low Rate of Crime in Montana and the Old West

Montana has a much lower crime rate than the Nation, but a much higher rate than the Old West as a whole.

At 1,927 offenses per 100,000 population, Montana's rate was nearly one-third below the United States average of 2,830 in 1972.

However, among the surrounding states all had lower averages. Wyoming's at 1,906 was not too much different; and Nebraska's at 1,720 was not disproportionately better. The other two states in the group, however, did far better. South Dakota had only 1,278 offenses, and North Dakota only 1,023, on a base of 100,000 (see Tables 21 and 23). The Dakotas, of course, are the most rural of the five states.

Montana's highly rural character when compared to the rest of the U.S. in general undoubtedly goes part of the way in explaining Montana's better showing versus the Nation. However, this rural factor can explain only a small proportion of our poor record compared to the rest of the Region.

Crime Factors

The analysis presented in this chapter is based on the nationwide view of crime seen in the Uniform Crime Reports and The Crime Index. These police statistics are compiled through the voluntary cooperation of local law enforcement agencies with the Federal Bureau of Investigation. The authors warn

that care must be taken in making comparisons between the States because of the wide variation in underlying conditions not all of which reflect either on the quality of the police work or on the moral fiber of the population.

Many factors influence the nature and extent of crime in a particular community. A crime rate takes into consideration only this numerical factor of population. It does not incorporate any of the other elements which contribute to the amount of crime in a given area.

Crime is a social problem and the concern of an entire community. Some of the conditions that will affect the amount and type of crime that occurs in any given place are listed below:

1. Density and size of the community population and the broader area of which it is a part.

2. Composition of the population. This reflects particularly the age, sex and race, relative stability (including commuters, seasonal and other transient types), and educational, recreational and religious characteristics.

3. Economic status and mores of the population, and attitude of the public toward law enforcement problems.

4. Effective strength of the police force.

5. Standards governing the appointments to the police force.

6. Policies of the prosecuting officials and the courts.

7. The administrative and investigative effeciency of the local law enforcement agency, including the degree of adherence to crime reporting standards.

Crime Index Defined

The Crime Index is an official measure of the trend and distribution of crime in the United States. It is based on statistics of murder, forcible rape, robbery, aggravated assault, burglary, larceny ($50 and over in value), and auto theft. These particular offenses have been selected for inclusion because, as a group, they represent the most common local crime problems. They are all serious either by their very nature or due to the volume in which they occur. The offenses of murder, forcible rape, aggravated assault, and robbery make up the violent crime category. The offenses of burglary, larceny ($50 and over in value), and auto theft make up the property crime category.

Estimates of current permanent population are used to construct crime rates. With our highly mobile population all communities, metropolitan areas, and especially states are affected to a greater or lesser degree by the element of transient population. This factor is not accounted for in crime rates since no reliable estimates by State are available nationwide.

Population and Crime

Crime rates relate the incidence of crime to population. A crime rate may also be thought of as a victim risk rate, in that it demonstrates the risk of becoming a victim of crime.

The Crime Index rate of the United States as a whole in 1972 was 2,829 per 100,000 inhabitants. This was a 3 per cent decrease from the 2,907 rate reported in 1971.

The national crime rate, or the risk of being a victim of one of these crimes, has increased 47 per cent since 1967.

Crime in Broad Regions in the Nation

The crime reports of the Federal Bureau of Investigation divide the Nation into four areas: Northeastern, North Central, Southern and Western. While Montana and Wyoming are in the Western Region, the other three -- North and South Dakota and Nebraska -- are North Central States for this purpose.

Regionally, the North Central Region has the lowest rate in the Nation for violent crimes (particularly for murders) but a moderately high rate of crimes against property. Overall the rate here is among the lowest, at only 2,480 crimes per 100,000 population in 1972. This is just fractionally above the rate in the Southern region -- 2,463.

At the other extreme, the Northeastern States have a rate of 2,840, and the Western States head the list with 4,030.

Montana's Crime Rate Compared with the United States

The Crime Indexes for both murder and rape are very low in each of the five states of the Old West. On the other hand, larceny rates are high in all states but North and South Dakota.

As can be seen in Table 21, Montana's murder and robbery rates are far below the United States average. Among other very serious crime, the State also rose far superior to the

TABLE 21

Crime Index, 1972
U. S. and Montana (Rate per 100,000)

	United States	Montana	Difference Number	Difference Per Cent
Total	2,830	1,927	-903	-32
Violent Crime	398	150	-248	-62
Property Crime	2,432	1,777	-655	-27
Murder & Nonnegligent Manslaughter	9	2	- 7	-78
Forcible Rape	22	11	- 11	-50
Robbery	180	33	-147	-82
Aggravated Assault	187	104	- 83	-44
Burglary	1,126	708	-418	-37
Larceny ($50 and Over)	883	821	- 62	- 7
Auto Theft	423	247	-176	-42

nation as a whole in "violent crime" (62 per cent below), rape (50 per cent below) and assault (44 per cent below). In respect to auto thefts, the State does 42 per cent better.

With respect to less serious crimes, Montana's rate of 821 larcenies per hundred thousand is about in line with the national rate of 883. For total crimes against property, though, the State rate is 27 per cent under the national rate. In burglaries the State compares even more favorably.

Effect of Rural Character of Montana

For the U. S. as a whole, the crime rate in rural areas is a little under 1,500 while in cities of over 250,000 population it is over 6,500. In 1970, Montana's population per square mile was only 4.8 compared with a nationwide average of 57.2 and an average of 8.1 for the Old West as a whole.

One of the major causes of the large difference between the State and the Nation in the number of crimes is undoubtedly the rural nature and low density of population here compared with the Nation.

More than 45 per cent of Montana's population lived in rural areas in 1972. This fraction was more than double the United States average of less than 20 per cent. Conversely, more than 70 per cent of United States citizens live in standard metropolitan areas while less than 25 per cent of the citizens of Montana live in big cities. Small cities account for 30 per cent of Montana's residents, as against only 11 per cent of Americans generally.

Although only one-fourth of all Montanans live in the metropolitan areas of the State, more than one-third of all reported crime is committed in these places. On the other hand, although nearly half of all Montana's residents live in rural areas, less than a third of all crimes are committed there.

Other Old West States

For every hundred thousand persons living in Montana there are 357 (23 per cent) more crimes committed than there are in the Region as a whole (see Table 22). This difference is largely a reflection of our poorer record with respect to crimes against property. Montana has a much higher rate of auto thefts and burglaries. In the categories of murder and rape Montana does about as well as the rest of the Old West.

Among the five states, only Wyoming has an overall crime rate that approaches Montana (see Table 23).

Except for burglary (where Montana has the higher rate) and for larceny (where Wyoming has the higher rate) the Crime Index Profiles of these two states are quite similar. Rates for nearly every major crime are well under the national average. The one exception is larceny: the rate in this category is above average in Wyoming and only a little below average in Montana.

North Dakota, with a Crime Index of just over a thousand, and South Dakota, with an index of less than 1,300, have the

TABLE 22

Crime Index for the
Old West and for Montana Alone, 1972
(Rate per 100,000)

	Average for the Five States of the Old West Average*	Montana	Difference Per Cent
Total	1,571	1,927	+23
Violent Crime	126	150	+19
Property Crime	1,446	1,777	+23
Murder & Nonnegligent Manslaughter	2	2	0
Forcible Rape	11	11	0
Robbery	29	33	+14
Aggravated Assault	84	104	+24
Burglary	538	708	+32
Larceny ($50 and Over)	725	821	+13
Auto Theft	182	247	+36

*Simple average of the five state Crime Indexes

TABLE 23

Crime Index, 1972
Totals for the U.S. and the Five States of the Old West
(Rate per 100,000)

	United States	Montana	South Dakota	North Dakota	Wyoming	Nebraska
Total	2,830	1,927	1,278	1,023	1,906	1,720
Violent Crime	398	150	111	46	148	173
Property Crime	2,432	1,777	1,168	978	1,758	1,547
Murder & Nonnegligent Manslaughter	9	2	1	1	4	3
Forcible Rape	22	11	11	5	14	14
Robbery	180	104	83	31	96	104
Aggravated Assault	187	104	83	31	96	104
Burglary	1,126	708	473	357	596	557
Larceny ($50 and Over)	883	821	587	530	958	729
Auto Theft	423	247	107	91	204	262

lowest rates of any of the five states. In fact, these are two of the lowest rates in the Nation: only West Virginia and Mississippi report lower averages. The superiority of the Dakotas extends to each major crime category individually.

The crime rates are lower in the Dakotas than in Montana despite the fact that Montana's 4.8 persons per square mile give it the lower population density. North Dakota has 8.9 and South Dakota 8.7. What seems to make the difference is that in the Dakotas about 55 per cent of the population live in rural areas compared with 45 per cent in Montana.

On the other hand, this factor does not at all explain why Montana's overall crime rate is one-fourth above the average for the Old West. Like Montana, the Region as a whole has about 45 per cent of its population living in rural areas. The Region's population density, however, is nearly twice that of Montana. Clearly both factors carry weight.

Crime Index, Montana and United States
1970-1972
(Rate per 100,000 Population)

	Montana	United States
1970	1,637	2,747
1971	1,769	2,907
1972	1,927	2,830
Per Cent Change 1970-1972	1.1	1.0

MONTANA'S DEVELOPMENT STRATEGY AND INVESTMENT OPPORTUNITY AREAS

A so-called growth center strategy has not yet been devised for the State of Montana. Instead, emphasis will be placed on a project or program approach to fill major gaps in public investment demand and supply. However, where it appears warranted due to economic demand and potentials, several projects could be linked together at specific locations. Part of the difficulty stems from the following:

First, the largest urban centers in the state are virtually the only areas which have witnessed large increases in population. With rare exceptions, other urban centers have shown little population growth during the last decade and 75% of Montana's counties had a net out-migration from 1960 to 1970. Secondly, the solution to our economic development problems lies, not in the design of programs workable only in the larger urban areas, but in the implementation of comprehensive programs reaching to the smaller urban centers as well. Under these conditions, a so-called growth center strategy would not be a very useful concept. Economic development project and program demands do exist in Montana's smaller communities and these demands will be determined.

Montana is a vast land area, and nearly half of the State's population - 46.6% - was classified as rural under the Bureau of Census definition in 1970. Only eight Montana cities reported populations over 10,000 persons in the census of 1970.

In a state with a population density of five (5) persons per square mile, one would expect to find the people living in a variety of smaller towns. Boasting more than 135 communities, Montana offers potential development sites in a range from hamlets to Standard Metropolitan Statistical Areas, stretching from the mountain valleys of the west to the agricultural market centers of the east.

Largest of the Montana communities are the trade and industrial centers of Billings in the south and Great Falls in the north. But the largest growth rates in the past decade were achieved by the University centers of Missoula on the west side of the Continental Divide, and Bozeman in the Gallatin Valley.

Among the rest, the dynamic little cities offer a variety of locale, physical resources and development possibilities in settings of matchless natural beauty. These towns, each with a character of its own, seek new and expanding businesses not to emulate the kind of urban growth whose sprawl would destroy some of the attibutes they value most; but to provide employment opportunities for their youth.

In the broadest sense, rural Montana has not demonstrated a propensity for large-scale or sustained economic growth, but many communities throughout the state can point with pride to industries they have attracted on the basis of favorable community conditions. However, such developments have not tended to broaden the economic base of the community sufficiently to attract the number or diversity of industries necessary for

sustained growth and development.

Most Montanans recognize and value the small town as vital to the qulity of life we enjoy in Montana. However, very little federal or state assistance has been made available to enable these small towns to deal adequately with their needs and few small towns have the resources to acquire what assistance may be available.

This situation led Governor Thomas L. Judge to launch Montana's "Towns for Tomorrow" program through which available state and federal assistance will be focused on selected small towns in Montana with a population of 3,000 or less.

The purpose of this program is to provide citizens in small towns the opportunity to receive assistance in carrying out their own ideas to improve their town - physically, culturally, socially, and economically.

To date, the towns of Boulder, Ennis, Plentywood, and Red Lodge have been selected to participate in this program.

Sizable investments must be made by the various levels of government and private concerns to improve the status of rural Montana in its competition for economic developments. Prevention of deterioration in the rural/urban balance requires consideration of selected investments which will enable our rural population to achieve a higher standard of living.

To maximize the benefits of public investments on the state's and region's welfare and economy, the State of Montana proposes a pattern of economic development which offers a number

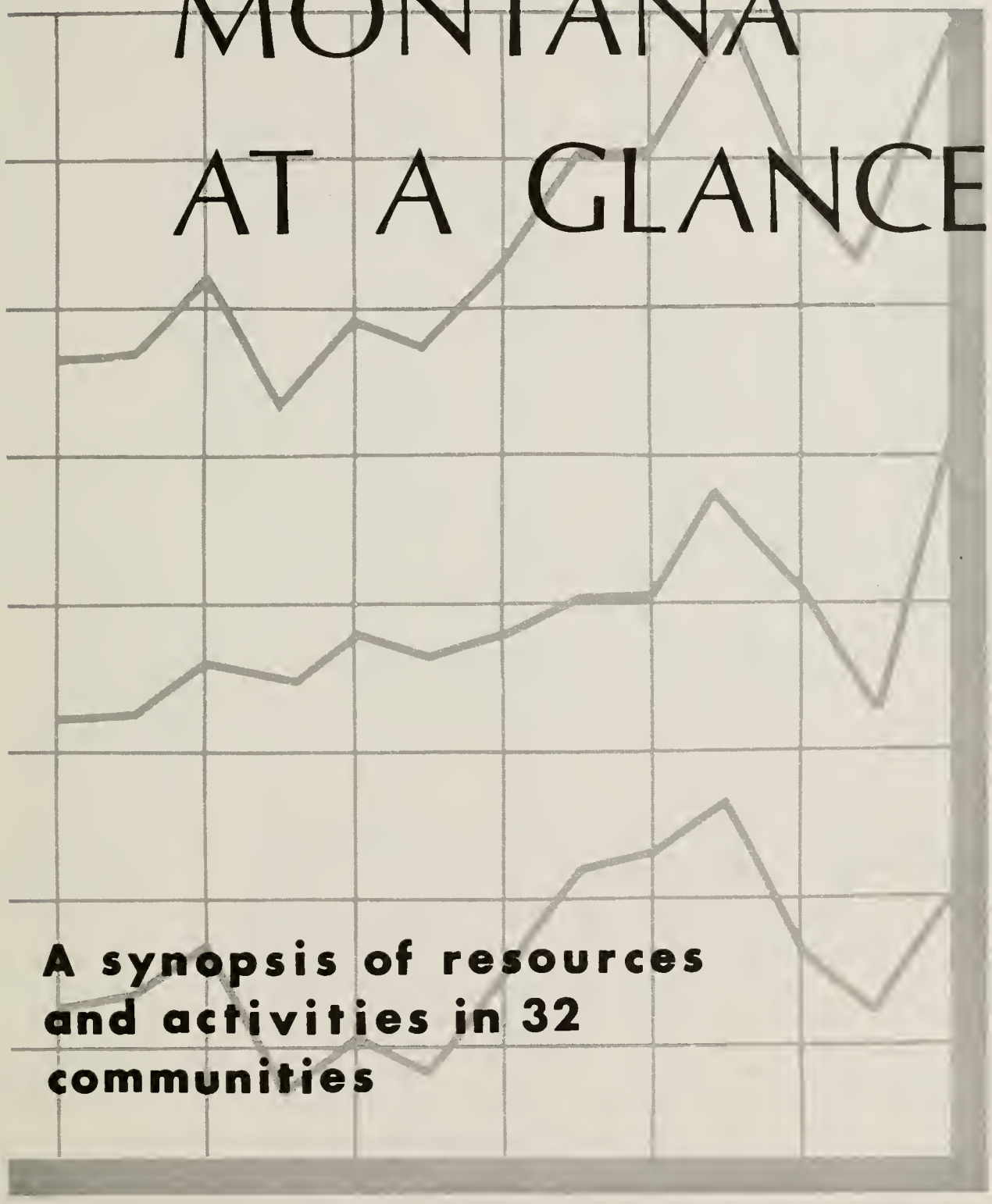
of alternative locations and which encourages the wise and balanced use of human and physical resources in urban as well as rural areas.

This pattern of economic development dictates the selection of Montana communities with a population of 2,000 or more and the towns selected to participate in the "Towns of Tomorrow" program as "investment opportunity areas."

A synopsis of resources and activities in the 32 communities with a population of 2,000 or more is presented on the following pages.

INTER GOVERNMENTAL RELATIONS

MONTANA AT A GLANCE....



A synopsis of resources and activities in 32 communities

MONTANA COMMUNITIES WITH POPULATION

CITY			COUNTY		TRANSPORTATION				
					Distance to Airports		Freight Service		
Location	Name	Population (1970)	Name	Population (1970)	Comm.	Light Plane	Railroad Service(1)	Number of Major Trucklines	Major Highways
S C	Billings	61,581	Yellowstone	87,367	2 mi.	2 mi.	BN,M	10	I-94,US-87
C	Great Falls	60,091	Cascade	81,804	4 mi.	4 mi.	BN,M	6	I-15,US-87
W C	Missoula	29,497	Missoula	58,263	5 mi.	5 mi.	BN,M	5	I-90,US-93
S W	Butte	23,368	Silver Bow	41,981	4 mi.	4 mi.	BN,M,UP	4	I-90,US-91
C	Helena	22,730	Lewis & Clark	33,281	2 mi.	2 mi.	BN	8	I-15,US-12
S C	Bozeman	18,670	Gallatin	32,505	10 mi.	10 mi.	BN,M	3	I-90,US-191
N C	Havre	10,558	Hill	17,358	2 mi.	2 mi.	BN	1	US-1,US-87
N W	Kalispell	10,526	Flathead	39,460	8 mi.	2 mi.	BN	4	US-93,US-2
S W	Anaconda	9,771	Deer Lodge	15,652	30 mi.	5 mi.	BA,UP	3	US-10A
S E	Miles City	9,023	Custer	12,174	2 mi.	2 mi.	BN,M	1	I-94,US-312
S C	Livingston	6,883	Park	11,197	35 mi.	5 mi.	BN	4	I-90,US-89
C	Lewistown	6,437	Fergus	12,611	1 mi.	1 mi.	BN,M	2	US-87,US-191
E C	Glendive	6,305	Dawson	11,269	8 mi.	8 mi.	BN	3	I-94,US-10
N E	Glasgow	4,700	Valley	11,471	2 mi.	2 mi.	BN	1	US-2
S W	Dillon	4,548	Beaverhead	8,187	65 mi.	2 mi.	UP	2	I-15,US-91
E C	Sidney	4,543	Richland	9,837	1 mi.	1 mi.	BN	2	Mont-200,Mont-16
S C	Laurel	4,454	Yellowstone	87,367	15 mi.	1 mi.	BN	6	I-90,US-310
S W	Deer Lodge	4,306	Powell	6,660	35 mi.	1 mi.	BN,M	2	I-90
N W	Cut Bank	4,004	Glacier	10,783	110 mi.	3 mi.	BN	1	US-12
N W	Whitefish	3,349	Flathead	39,460	9 mi.	9 mi.	BN	4	US-93,US-2
N W	Libby	3,286	Lincoln	18,063	100 mi.	3 mi.	BN	2	US-2
N C	Shelby	3,111	Toole	5,839	88 mi.	2 mi.	BN	1	I-15,US-2
N E	Wolf Point	3,095	Roosevelt	10,365	3 mi.	3 mi.	BN	2	US-2,Mont-13
N C	Conrad	2,770	Pondera	6,611	60 mi.	1 mi.	BN	2	I-15
S C	Hardin	2,773	Big Horn	10,057	50 mi.	1 mi.	BN	2	I-90,Mont-47
N W	Columbia Falls	2,652	Flathead	39,460	8 mi.	8 mi.	BN	3	US-2
S E	Baker	2,584	Fallon	4,050	80 mi.	1 mi.	M	2	US-12,Mont-7
S W	Hamilton	2,499	Ravalli	14,409	47 mi.	1 mi.	BN	2	US-93
N W	Polson	2,464	Lake	14,445	50 mi.	1 mi.	BN	2	US-93
N E	Plentywood	2,381	Sheridan	5,779	85 mi.	1 mi.	BN	1	Mont-5,Mont-16
N E	Malta	2,195	Phillips	5,386	70 mi.	1 mi.	BN	1	US-2,US-191
C	Roundup	2,116	Musselshell	3,734	45 mi.	1 mi.	M	2	US-12,US-87

(1) Montana's rail services are indicated above by the following:
BN--Burlington Northern M--Milwaukee Road
UP--Union Pacific BA--Butte, Anaconda & Pacific

AVERAGE EARNINGS PER EMPLOYEE BY MAJOR INDUSTRY

	1973	1972	1971	1970	1969	1968	1967
Mining	$10,336	$10,495	$9,047	$8,474	$7,930	$7,497	$7,197
Construction	9,878	9,615	9,205	8,491	7,873	7.709	7,167
Manufacturing	8,660	8,177	7,626	7,187	6,881	6,508	6,373
Utilties	8,984	8,488	7,803	7,358	7,036	6,630	6,397
Trade (Wholesale & Retail)	5,698	5,458	5,152	4,882	4,694	4,485	4,337
Fin. Ins. & Real Estate	7,004	6,783	6,489	6,132	5,924	5,634	5,350
Ser. & Misc.	4,881	4,581	4,220	3,945	3,746	3,523	3,304
All Covered Industries	6,862	6,663	6,320	5,948	5,689	5,428	5,253

SOURCE: MONTANA DEPARTMENT OF LABOR & INDUSTRY

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border extends 1/5
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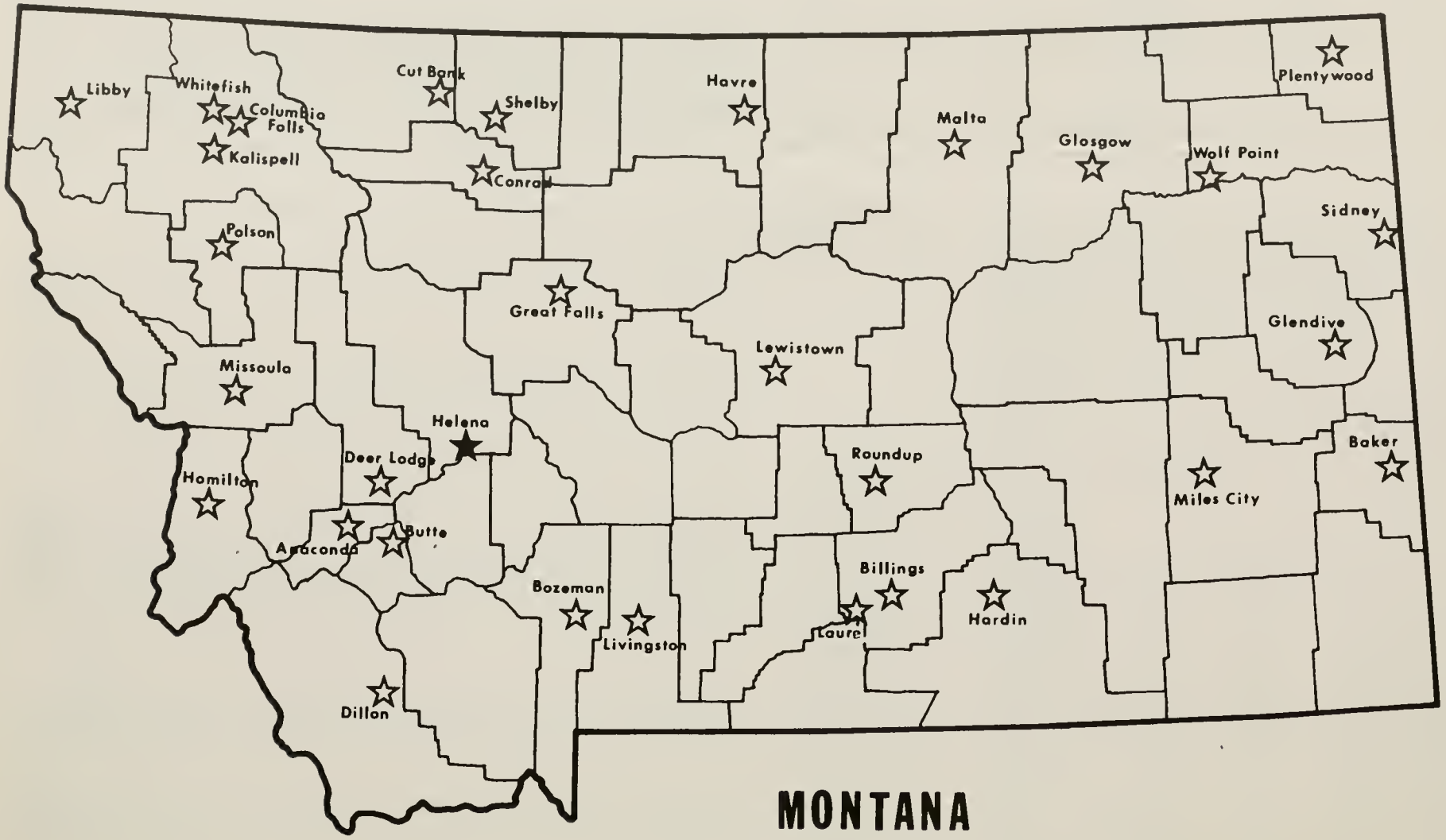
Libby
Whitefish
Columbia Falls
Kalispell
Cut Bank
Shelby
Conrad
Havre
Malta
Glasgow
Wolf Point
Plentywood
Sidney
Polson
Great Falls
Lewistown
Glendive
Missoula
Helena
Deer Lodge
Roundup
Baker
Miles City
Hamilton
Butte
Anaconda
Billings
Bozeman
Livingston
Laurel
Hardin
Dillon
MONTANA
COMMUNITIES: Population 2,000 and above
COUNTY BOUNDARY

MONTANA COMMUNITIES WITH POPULATION OF 2,000 OR MORE

Location	City Name	Population (1970)	County Name	Population (1970)	Transportation: Distance to Airports — Comm.	Transportation: Distance to Airports — Light Plane	Transportation: Freight Service — Railroad Service(1)	Transportation: Freight Service — Number of Major Trucklines	Transportation: Freight Service — Major Highways	Programs: Does City have — Comprehensive Plan?	Programs: Does City have — Zoning Ordinances	Programs: Does City have — Number of Industrial Sites?	Programs: Does City have — Local Development Corporation?	Taxes (2) Actual Tax Paid Per 1000 of Marketable Value (1973-74) — City	Taxes (2) Actual Tax Paid Per 1000 of Marketable Value (1973-74) — County Average
S C	Billings	61,581	Yellowstone	87,367	2 mi.	2 mi.	BN,M	10	I-94,US-87	Yes	Yes	4	Yes	$29.36	$20.43
C	Great Falls	60,091	Cascade	81,804	4 mi.	4 mi.	BN,M	6	I-15,US-87	Yes	Yes	4	Yes	$31.28	$22.23
W C	Missoula	29,497	Missoula	58,263	5 mi.	5 mi.	BN,M	5	I-90,US-93	Yes	Yes	5	Yes	$32.10	$24.09
S W	Butte	23,368	Silver Bow	41,981	4 mi.	4 mi.	BN,M,UP	4	I-90,US-91	Yes	Yes	1	Yes	$33.07	$26.19
C	Helena	22,730	Lewis & Clark	33,281	2 mi.	2 mi.	BN	8	I-15,US-12	Yes	Yes	2	Yes	$33.33	$23.72
S C	Bozeman	18,670	Gallatin	32,505	10 mi.	10 mi.	BN,M	3	I-90,US-191	Yes	Yes	1	Yes	$30.18	$21.36
N C	Havre	10,558	Hill	17,358	2 mi.	2 mi.	BN	1	US-1,US-87	Yes	Yes	1	Yes	$32.38	$22.90
N W	Kalispell	10,526	Flathead	39,460	8 mi.	2 mi.	BN	4	US-93,US-2	Yes	Yes	3	Yes	$28.36	$19.98
S W	Anaconda	9,771	Deer Lodge	15,652	30 mi	5 mi.	BA,UP	3	US-10A	Yes	Yes	1	Yes	$32.34	$23.33
S E	Miles City	9,023	Custer	12,174	2 mi.	2 mi.	BN,M	1	I-94,US-312	Yes	Yes	1	Yes	$28.55	$18.27
S C	Livingston	6,883	Park	11,197	35 mi.	5 mi.	BN	4	I-90,US-89	Yes	Yes	1	Yes	$27.50	$20.82
C	Lewistown	6,437	Fergus	12,611	1 mi	1 mi.	BN,M	2	US-87,US-191	Yes	Yes	4	Yes	$27.68	$18.77
E C	Glendive	6,305	Dawson	11,269	8 mi.	8 mi.	BN	3	I-94,US-10	Yes	Yes	5	Yes	$30.00	$21.93
N E	Glasgow	4,700	Valley	11,471	2 mi	2 mi.	BN	1	US-2	Yes	Yes	1	No	$30.51	$20.73
S W	Dillon	4,548	Beaverhead	8,187	65 mi.	2 mi.	UP	2	I-15,US-91	No	Yes	1	No	$23.01	$17.91
E C	Sidney	4,543	Richland	9,837	1 mi.	1 mi.	BN	2	Mont-200,Mont-16	Yes	Yes	1	Yes	$22.02	$18.91
S C	Laurel	4,454	Yellowstone	87,367	15 mi.	1 mi.	BN	6	I-90,US-310	No	Yes	1	No	$28.52	$20.43
S W	Deer Lodge	4,306	Powell	6,660	35 mi.	1 mi.	BN,M	2	I-90	Yes	No	1	Yes	$25.72	$18.40
N W	Cut Bank	4,004	Glacier	10,783	110 mi.	3 mi.	BN	1	US-12	Yes	Yes	1	No	$22.73	$17.42
N W	Whitefish	3,349	Flathead	39,460	9 mi.	9 mi	BN	4	US-93,US-2	Yes	Yes	3	No	$26.68	$19.98
N W	Libby	3,286	Lincoln	18,063	100 mi.	1 mi.	BN	2	US-2	Yes	Yes	2	No	$27.11	$19.56
N C	Shelby	3,111	Toole	5,839	88 mi.	2 mi.	BN	1	I-15,US-2	Yes	Yes	1	Yes	$29.18	$20.93
N E	Wolf Point	3,095	Roosevelt	10,365	3 mi.	3 mi.	BN	2	US-2,Mont-13	No	No	1	Yes	$29.26	$21.78
N C	Conrad	2,770	Pondera	6,611	60 mi.	1 mi.	BN	2	I-15	Yes	Yes	1	No	$23.44	$19.52
S C	Hardin	2,773	Big Horn	10,057	50 mi.	1 mi.	BN	2	I-90,Mont-47	Yes	Yes	1	No	$24.03	$17.78
N W	Columbia Falls	2,652	Flathead	39,460	8 mi.	8 mi.	BN	3	US-2	Yes	Yes	4	Yes	$28.31	$20.01
S E	Baker	2,584	Fallon	4,050	80 mi.	1 mi.	M	2	US-12,Mont-7	Yes	No	1	Yes	$25.32	$16.57
S W	Hamilton	2,499	Ravalli	14,409	47 mi.	1 mi.	BN	2	US-93	Yes	No	1	Yes	$24.03	$20.91
N W	Polson	2,464	Lake	14,445	50 mi.	1 mi.	BN	2	US-93	Yes	Yes	3	No	$28.25	$20.21
N E	Plentywood	2,381	Sheridan	5,779	85 mi	1 mi.	BN	1	Mont-5,Mont-16	No	Yes	1	No	$23.78	$21.21
N E	Malta	2,195	Phillips	5,386	70 mi	1 mi.	BN	1	US-2,US-191	No	No	1	No	$22.94	$19.81
C	Roundup	2,116	Musselshell	3,734	45 mi	1 mi.	M	2	US-12,US-87	Yes	Yes	1	Yes	$20.97	$16.44

(1) Montana's rail services are indicated above by the following:
BN--Burlington Northern M--Milwaukee Road
UP--Union Pacific BA--Butte, Anaconda & Pacific

(2) Property is divided into ten clases for taxation purposes. In Montana, most properties are assessed at approximately 40% of their true and full value. This is further reduced, depending on which class applies (30% for land, buildings, and equipment was used above) to reach a taxable value which was multiplied by the application mill levy.

1973 COUNTY EMPLOYMENT PATTERN (4)

County	All Covered Industry — Employers	All Covered Industry — Workers	Mining — Employers	Mining — Workers	Contract Construction — Employers	Contract Construction — Workers	Manufacturing — Employers	Manufacturing — Workers	Trans., Commun., Public Utilities(3) — Employers	Trans., Commun., Public Utilities(3) — Workers	Wholesale and Retail Trade — Employers	Wholesale and Retail Trade — Workers	Finance, Insurance and Real Estate — Employers	Finance, Insurance and Real Estate — Workers	Service Industries and Misc. — Employers	Service Industries and Misc. — Workers
Yellowstone	2,517	24,801	47	326	319	1,877	92	3,296	142	1,980	943	9,972	238	1,515	737	5,835
Cascade	1,746	17,520	5	27	210	1,533	56	1,751	92	1,194	686	7,162	173	1,402	524	4,451
Missoula	1,636	15,358	9	23	242	1,214	108	3,135	97	1,108	531	5,377	152	755	497	3,746
Silver Bow	918	10,867	8	3,532	93	480	31	594	38	485	409	3,454	79	420	260	1,902
Lewis & Clark	934	8,799	5	5	113	607	37	867	24	942	327	2,650	106	971	322	2,757
Gallatin	912	6,691	1	18	139	649	58	1,036	34	231	338	2,575	51	405	291	1,777
Hill	391	3,230	10	99	44	254	12	183	22	239	158	1,320	35	170	110	965
Flathead	1,104	9,481	7	15	121	559	132	3,472	64	464	405	2,846	73	477	302	1,648
Deer Lodge	228	3,167	2	65	30	525	7	1,351	11	71	102	641	16	106	60	408
Custer	347	2,426	6	17	46	217	11	114	20	188	135	1,132	28	125	99	633
Park	339	1,943	1	1	31	137	20	300	12	120	140	723	23	164	112	498
Fergus	344	1,814	5	19	40	201	20	214	16	62	155	819	28	124	80	375
Dawson	262	2,350	19	182	38	230	9	99	19	402	109	824	24	113	64	500
Valley	282	2,607	--	---	45	196	7	319	15	150	131	820	18	113	66	1,009
Beaverhead	206	1,003	6	6	19	43	7	54	11	60	95	532	10	52	58	254
Richland	247	1,813	7	56	48	120	12	259	11	113	102	738	15	100	52	427
Yellowstone	2,517	24,801	47	326	319	1,877	92	3,296	142	1,980	943	9,972	238	1,515	737	5,835
Powell	136	833	3	169	11	14	18	153	6	43	53	277	8	50	37	127
Glacier	269	2,065	19	195	28	127	9	181	15	181	126	626	13	75	79	680
Flathead	1,104	9,481	7	15	121	559	132	3,472	64	464	405	2,846	73	477	302	1,648
Lincoln	415	3,974	6	234	66	989	79	1,478	23	127	138	667	16	78	87	401
Toole	219	1,008	32	124	15	29	7	65	17	152	95	413	9	50	44	175
Roosevelt	246	1,386	8	34	13	18	8	82	13	69	138	551	11	75	55	557
Pondera	185	899	8	17	22	82	3	21	8	38	92	478	8	56	44	207
Big Horn	220	1,163	9	95	32	118	5	113	14	57	89	453	14	64	57	283
Flathead	1,104	9,481	7	15	121	559	132	3,472	64	464	405	2,846	73	477	302	1,648
Fallon	110	619	5	64	14	51	5	21	12	129	45	179	7	44	22	131
Ravalli	364	2,061	2	5	50	91	40	489	30	140	130	755	24	128	88	453
Lake	331	2,109	2	3	42	268	26	505	15	71	145	644	18	84	83	534
Sheridan	158	719	8	35	16	30	2	10	13	49	79	379	9	48	31	168
Phillips	122	538	2	2	13	34	5	28	8	43	65	279	5	30	24	122
Musselshell	121	586	15	126	9	15	12	82	5	25	47	201	9	46	24	91

(3) Interstate Railroads not included.

(4) Source: Montana Department of Labor & Industry

AVERAGE EARNINGS PER EMPLOYEE BY MAJOR INDUSTRY

	1973	1972	1971	1970	1969	1968	1967
Mining	$10,336	$10,495	$9,047	$8,474	$7,930	$7,497	$7,197
Construction	9,878	9,615	9,205	8,491	7,873	7.709	7,167
Manufacturing	8,660	8,177	7,626	7,187	6,861	6,508	6,373
Utilities	8,984	8,488	7,803	7,358	7,036	6,630	6,397
Trade (Wholesale & Retail)	5,698	5,458	5,152	4,882	4,694	4,485	4,337
Fin. Ins. & Real Estate	7,004	6,763	6,489	6,132	5,924	5,634	5,350
Ser. & Misc.	4,881	4,581	4,220	3,945	3,746	3,523	3,304
All Covered Industries	6,862	6,863	6,320	5,948	5,689	5,428	5,253

SOURCE: MONTANA DEPARTMENT OF LABOR & INDUSTRY

A FEW FACTS ABOUT MONTANA

Montana averages 500 miles long by nearly 300 miles wide. It contains 147,000 sq. miles of area and it is the 4th largest state in the United States. Its northern border extends 1/5 of the distance across the United States. The western one-third of Montana is mountainous while the eastern two-thirds consists of plains broken by isolated mountain groups.

Elevations vary from a high of 12,800 ft, in southcentral Montana to a low of about 1,900 ft. at both the eastern and western borders where the rivers leave the State. The average elevation of Montana is about 3,400 ft. and this is the lowest of all the Rocky Mountain States.

Montana has four major rivers: The Missouri, the Yellowstone, the Clark Fork, and the Kootenai. The combined average annual flow of water leaving the State from these rivers is 42,010,000 acre-feet.

Precipitation varies from a minimum of only 6-8 inches per year to a maximum of 120 inches per year at a location in Glacier National Park. The average precipitation for the State is 15 inches per year. Most of Montana's cities are located in areas which receive less than 17 inches of precipitation per year.

Montana's winters are usually milder than those of several metropolitan cities in the Midwest. The State's average maximum daytime temperature in January is +29°F. However, wide fluctuations in temperature are not uncommon.

Montana's estimated population, October, 1974, is 735,000 people. This is less than five persons per sq. mile. However, 1/3 of Montana's population resides in it's six largest cities.

Montana has nine senior colleges and universities. Six are State supported and three are private institutions. In addition, there are three community junior colleges and six vo-tech schools of which five are State supported and one is locally supported. Approximately 36% percent of Montana's eligible college-age youths are enrolled in these institutions of high learning. Total college enrollment in Montana is approximately 26,000 students.

Four airline companies (Northwest Airlines, Western Airlines, Frontier Airlines, and Hughes Air West) provide commercial service to the state.

Montana's major sources of basic income are: Agriculture (crops & livestock marketed, plus government payments, 1973)-$1,124,307,000; value added by manufacturing (1972)-$457,500,000; Minerals, produced (1973)-$362,457,000; and Tourism (out-of-state visitors) (1972)-$164,003,113.

The total average number of people employed in 1973 was 290,200. Included in this total were 56,400 in wholesale/retail trade; 55,300 in government; 42,200 in services, 24,400 in manufacturing; 36,300 in agriculture; 18,800 in transportation and public utilities; 13,400 in contract construction; 9,400 in finance/insurance/real estate; 6,300 in mining.

ACCUMULATED PERCENT OF MALES WITH EARNINGS TO VARIOUS LEVELS AND BY MAJOR INDUSTRIES

	$0 to $6,999 — MONT	$0 to $6,999 — WEST* STATES	$0 to $7,999 — MONT	$0 to $7,999 — WEST STATES	$0 to $9,999 — MONT	$0 to $9,999 — WEST STATES	$0 to $14,000 — MONT	$0 to $14,000 — WEST STATES	$15,000 or more — MONT	$15,000 or more — WEST STATES
MINING	39%	28%	54%	41%	79%	67%	96%	92%	4%	9%
CONSTRUCTION	44%	35%	57%	44%	76%	61%	94%	90%	6%	11%
MANUFACTURING	46%	30%	61%	40%	82%	61%	97%	88%	4%	12%
UTILITIES	34%	28%	48%	39%	72%	60%	95%	90%	5%	9%
WHOLESALE AND RETAIL TRADE	57%	51%	69%	60%	82%	75%	95%	93%	5%	9%
FINANCE, INSURANCE AND REAL ESTATE	31%	34%	39%	41%	53%	55%	90%	79%	21%	22%
SERVICES	54%	46%	63%	53%	76%	65%	91%	85%	9%	16%

*The western states include 11 continental western states plus Alaska and Hawaii
Source 1970 Census of Population, U.S. Department of Commerce, Bureau of the Census.
experienced civilian labor force, 16 years and older

Multi-County Sub-State Districts in Montana

The State-Local partnership of Montana's Sub-state Districts corresponds to the Federal-State partnership involved in the Old West Regional Commission. District Councils provide the forum for intergovernmental cooperation.

In recognition of the numerous sets of sub-state district divisions then in use by State and Federal agencies operating in Montana, former Governor Forrest H. Anderson created a uniform set of 12 multi-county sub-state districts. Executive Order 2-71 defined the district boundaries. The objectives of the district designation outlined in the order are:

(a) To enable the use, by all State and Federal agencies, of a common set of districts for planning, administration, and coordination of programs at sub-state levels.

(b) To provide a consistent area framework for the gathering, processing, and analyzing of planning and administrative information and data.

(c) To eliminate or reduce overlap, duplication and competition between various levels of government, and thus facilitate the most effective use of the state's resources.

(d) To provide a strengthened role for county and municipal officials in the utilization of state and federal programs in their communities.

(e) To provide a uniform basis for coordinating major state plans and programs.

Montana at a Glance GE 101

November, 1974

Information in this Report complied by:

Economic Development Division

DEPARTMENT OF INTERGOVERNMENTAL RELATIONS

Capitol Station, Helena, Montana 59601

Additional inquiry welcome

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(e) To provide a uniform basis for coordinating major state plans and programs.

To foster intergovernmental coordination within these districts Governor Thomas L. Judge issued guidelines for the formation of District Councils. To insure that local governments are involved,a minimum of 2/3 of a Council's membership must be local elected officials. District Councils, or Councils of Governments as they are known in some states, provide the opportunity for these local officials to come together as the result of local initiative and discuss common problems. The role of these councils is strictly policy planning, program development and coordination. District councils are not intended to be another layer of government. Governor Judge is opposed to District Councils having direct taxing authority and he does not believe that District Councils should be responsible for the actual delivery of services. Through the District Council there is the opportunity for integrated state and local planning programs. This organization will give local officials the opportunity to have an unparalleled degree of influence upon state policy and program formulation. Thus, District Councils can serve local government directly by providing a vehicle for cooperation and coordination as well as providing an opportunity for local officials to influence state policy.

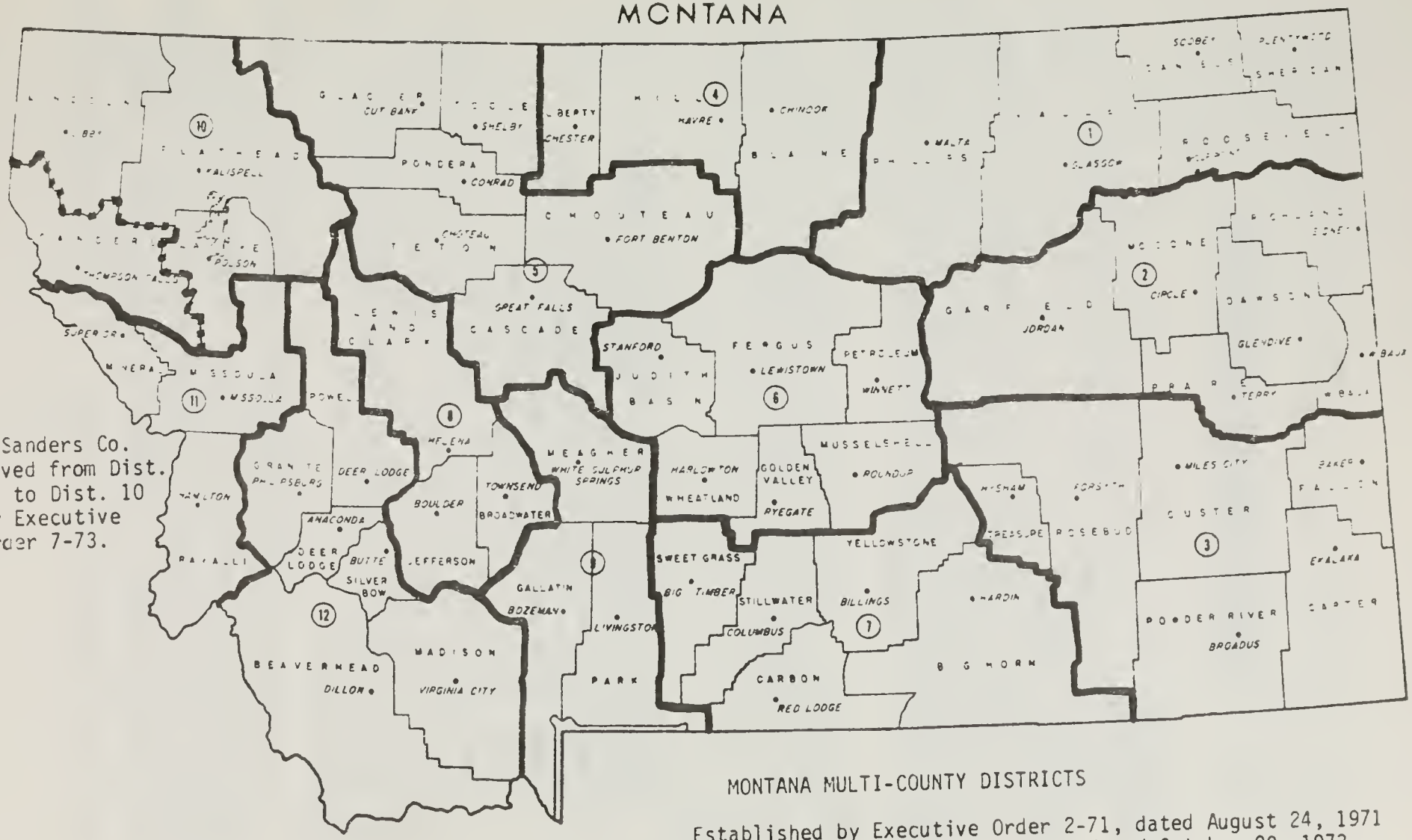
Currently there are two organized districts. Central Montana District Six Council and Provisional Council for district One. These groups are advancing on a number of fronts and their successful activities will serve to stimulate the formation of other councils.

Like the Old West Regional Commission, the concerns of district councils are broad. Agricultural production, industrial and energy development, social needs and the maintenance of environmental quality are all activities of common interest. The recent funding provided by the Old West Regional Commission for the Montana Community Technical Assistance Program is extremely significant. This program is in response to local officials determination of local needs. It will provide technical assistance to communities facing unprecedented industrial growth due to the large low-sulfur coal reserves. Local officials face problems in the form of school overcrowding, road maintenance, law enforcement, housing shortages, maintenance of quality drinking water, sanitary waste treatment facilities, solid waste disposal and fiscal management. Planning for a large and rapid influx of people is essential if positive impacts are to be maximized and negative impacts minimized. The demands on the valuable water resources and the question of reclamation are additional critical areas that concern local officials.

Through demonstrating how a regional approach can effectively address problems on a multi-jurisdictional level, the Old West Regional Commission can lead by example. The efforts already under way to provide technical assistance can create the type of long-term stable development that is so necessary in the coal impacted area of Montana. In the future as more district councils are organized the Commission can aid them by providing program assistance and by recognizing projects developed on a multi-county basis.

Guaranteeing the maintenance of the environmental quality that makes Montana unique and insuring that industrial development provides permanent economic strength, is a goal that we can attain together.

MONTANA



Sanders Co. moved from Dist. 11 to Dist. 10 by Executive Order 7-73.

MONTANA MULTI-COUNTY DISTRICTS

Established by Executive Order 2-71, dated August 24, 1971
Amended by Executive Order 7-73, dated October 29, 1973

MONTANA INVESTMENT OPPORTUNITIES

Introduction

The Big Sky Country. The "Last of the Big Time Splendors"...MONTANA.

It is hard to describe, to put into words, for Montana is not merely a land, an enormous glamorous land, but a people, a way of life, that needs to be felt rather than just seen or heard.

Many have fallen in love with Montana, but not many have written as compellingly of their love affair as John Steinbeck.

> "To me, Montana is a great splash of grandeur. The scale is huge but not overpowering. The land is rich with grass and color, and the mountains are the kind I would create if mountains were ever put on my agenda. Montana seems to me to be what a small boy would think Texas is like from hearing the Texans."

Others have tried to put in their own words the effect this magnificent land has on them. "The Big Sky Country," they have called it; "The land of the Shining Mountains;" "The Treasure State."

The Great Seal of the State bears witness that it was the treasure of silver and gold that most impressed the early founders...and the western mountains still ring with the names of the old gold towns -- Bannack and Virginia City, Helena, Gold Creek, Marysville and Boulder. A hundred ghost towns give

silent and picturesque evidence of what happened when this treasure waned, and aerial photos show clearly where the gold dredges left serried ridges when they took over from the placer miners.

In more recent years, the "treasure" that supports the state's growing economy has proved to be the minerals of copper and lead and zinc; wells of oil and gas; deposits of lignite and bituminous coal whose billions of untouched tons are just beginning to be tapped; and the renewable resources of timber and wheat and cattle, as well as beets and barley, sheep and hogs.

Montana is peerless recreation country, with plenty of action for the hunter and fisherman, the snow-sports enthusiast and the sightseer. Both the Columbia and the Missouri rivers headwater in the highlands of the Treasure State. Its largest body of water is backed-up behind Fort Peck, first of the great dams built to harness the waters of the Missouri, but there are sparkling lakes and reservoirs throughout the state, where the runoff from winter snows is caught for a time to serve as a source of power as well as water recreation and irrigation. There is 126,000-acre Flathead Lake in the west, Hungry Horse and Libby in the north and northwest, Yellowtail in the southeast -- to name just the largest of these.

There are 400 miles of trout streams if you count just the double-distilled, top-rated "blue ribbon" classification. A third of the states 147,000 square miles are publicly owned

federal, state, and Indian lands, and vast tracts of these are sacrosanct "wilderness areas," untouched by saw blade or bulldozer; preserved in perpetuity for the outdoorsman.

The name, of course, is a giveaway as to what kind of scenery awaits the visitor to Montana. The great spine of the Continental Divide, straddled by Glacier National Park and the Bob Marshall Wilderness, enters the state from Canada 90 miles east of the Idaho line, and continues southerly, missing the state capitol at Helena by a scant 15 miles. It loops around the mining capitol of Butte, and 210 miles south of the Canadian border as the jet flies, goes on to intersect the state line to the west at Chief Joseph Pass in the Bitterroots, and from there into Yellowstone Park to the southeast; it forms 275 miles of the Montana-Idaho border.

Mountains and intermountain valleys constitute the western third of Montana, but still other ranges shoulder across the southern border into the state from Wyoming.

It is also a land of sweeping plains with the golden triangle in the mid-north forming a basket of wheat land that overflows into Canada. The seemingly flat eastern plains becomes a land of upside-down rimrocks as they cut the plains into ups and downs, ins and outs. It's resource-filled with beef and food to nourish millions.

Montana is proud of its colorful past -- and with good reason. But deserted mining towns and abandoned farm homesteads are not what characterize the Montana of today. It seeks to combine reasonable development of its resources, while preserving and maintaining the unspoiled grandeur of

of its mountains, rivers, and prairies, and the familiar ways of life of its people. In the following sections are described in more detail both the kinds of materials and products, and the kinds of investment and production opportunities it offers the purchaser, the entrepreneur, and the investor.

Wood Products

Wood products production forms an integral part of Montana's economy, particularly in the western part of the state. This industry also affords excellent opportunities for future development.

Almost one-fourth of Montana bears a tree cover with fully 70% of all the forested land classed as Commercial Forest Land -- capable of raising a timber crop for harvest.

According to the U.S. Forest Service, more than one billion board feet of logs are harvested annually for use by sawmills, plywood plants, a pulp and paper mill, post and pole plants, log house manufacturers, and other wood-using businesses.

Montana-produced wood products are marketed nationwide. Studies by the American Plywood Association show that most plywood goes to midwest and eastern markets.

Today, a virtually untapped potential lies ready within Montana's forestry industry. This is the field of secondary processing and manufacturing. The future potential can use Montana's basic wood products to manufacture specific consumer products. Presently most of the state's wood products are shipped to other areas for remanufacturing into consumer products.

"Expansion Opportunities for the Wood Products Industry in Western Montana" is the title of a report issued by the Center for Industrial Development at Bozeman. This report explains why secondary processing would be feasible and provides examples of some types of operation.

Some of the operations mentioned include:

-roof trusses
-finger jointed stock
-pattern stock
-mobile homes
-pre-fab or modular homes
-cut-to-size plywood and particleboard
-plywood and particleboard overlays
-window frames
-doors and door frames
-mouldings
-bark for humus fuel, or as mulch or ground cover

Currently, the U.S. Forest Service estimates that Montana has more than 100 sawmills and stud mills, five plywood plants, one particleboard plant and one specialty fiberboard plant, one pulp and paper mill, five wood pressure treating plants, and numerous small-wood-using operations manufacturing house logs, fence posts, fence railing and other products . . .

The pulp and paper mill has initiated a major expansion and the fiber-board plant recently went into operation.

Secondary manufacturing is at a minimum, and as mentioned above, prime for expansion. With western Montana containing scenic lands drawing new residents continously, a growing and dedicated labor force is insured.

Minerals

Mineral development remains a vast and largely untapped resource of Montana. According to the Montana Bureau of Mines and Geology the state's mineral reserve is believed to be enormous, and exploration activities have recently reached an all-time high and are expected to continue to increase.

Historically, the "draw" to Montana was mineral. Gold was the magnet that attracted southern refugees and many others. Mining towns grew, prospered; and then virtually abandoned, became ghostly reminders of a once great period of American history. Although gold was the first lure, it was the discovery and production of copper, other base metals, and coal that provided an early base for continued growth.

Butte became the "richest hill on earth" and achieved a population of 100,000 near the end of World War I on the basis of copper, gold and silver ore. Lead, zinc, and manganese have also become a permanent part of the Montana economy.

Montana's oil and gas industry began to grow in the 20's, but coal was the major fuel until the 40's (and is now rebounding). Actually, in the early 40's Montana's Colstrip mine was probably the largest surface coal producer in the nation, but the burgeoning state oil industry developed into the major revenue producer by the mid-50's.

Today the picture is changing. There remains little doubt that coal will become the king of mineral production for Montana in the last quarter of this century. Petroleum and natural gas will continue to play a vital role in the energy

picture, and it is generally agreed that Montana has the greatest potential for discovery of new fields of any non-coastal state.

While the easily found deposits of valuable metals are gone, Montana is regarded as having one of the highest potentials for metallic meneral development in the nation. Deposits of copper, other base metals, molybdenum, tungsten, nickel, gold, silver, antimony, and chrome are being evaluated. Iron deposits are mapped and available for production as soon as favorable economic conditions exist. The prospect for future siting of steel plants in western Montana is good according to the Montana Bureau of Mines.

Montana may be unique in that in one area it has mineral deposits containing all the elements needed to produce most if not all of the specified varieties of stainless steel.

Butte is the center of metal-mining operations in Montana. Increased production and new ore-reduction works are going on stream. The Anaconda Co. recently opened its second copper mining pit in the area and has initiated its new non-polluting Arbiter process for copper refining. In addition to copper, Butte produces condiserable gold and silver. It also has large zinc reserves which are not being mined at the present time.

Vast deposits of phosphate rock lie fully mapped in southwestern Montana, and commercial bentonite is common in eastern Montana. Both commodities are in production at present, and production will likely increase because of the national

need for fertilizer and material suitable for the pelletizing of iron ore. Uranium and vanadium may become by-products of future phosphate processing. Sand and gravel provide the greatest income of all non-metallic commodities now in production. Montana is a leading producer of vermiculite and talc building stone and limestone also contribute to state mineral production.

Several deposits of low-grade tungsten ore are being evaluated, and prospects for production are enhanced by rising prices for imports.

Current interest focuses on the vast low-sulfur surface-minable coal in eastern Montana's Fort Union coal region. Coal production is accelerating, and a total annual production of 42 million tons is expected in 1980. The Fort Union Region is common to Montana, Wyoming, and North Dakota, and these states would seem to have the greatest potential for mineral fuels development in the nation.

Field evaluation programs of the Montana Bureau of Mines and Geology in cooperation with the EPA and the U.S. Geological Survey have reliably established reserves in excess of 42 billion tons of coal at depths of less than 350 feet. Continued exploration is expected to raise the total beyond 50 billion tons. The need for coal to balance the nation's energy import situation is obvious. Development of Montana's coal energy will stimulate the search for and utilization of many other mineral resources throughout the state.

The prices for all mineral commodities are rising, and this trend will likely continue throughout the present decade,

if not longer. Production of mineral raw materials is certain to increase, and the increase must be spectacular if the nation's energy and material needs are to be fully met.

The potential for mineral development lies in the fact that actually only a small part of Montana has been explored by modern sophisticated methods. Significant additional deposits of copper, base metals, tungsten, precious metals, etc., probably remain to be found.

Manufacturing

Manufacturing in Montana is primarily based upon the processing of raw materials; the refining of copper, aluminum, petroleum, and lead; the production of elemental phosphorus and cement; and the manufacturing of wood products. The upgrading of agricultural products, such as beet sugar refining, flour millings, and livestock processing, is also very important. Mentioned, in other sections of this report, are some of the manufacturing and processing associated with Montana's agriculture, mineral and wood products industries. Other products manufactured in Montana range from small electronic components to farm machinery, including large tractors. Nevertheless, most of Montana's manufacturing firms are rather small, serving local markets.

Approximately 24,500 persons are employed in manufacturing within Montana and the value added by manufacturing approximates $400 million annually. However, it is estimated that Montana annually exports only about $20 million worth of these products

to foreign countries. While the volume of manufactured goods shipped in international trade has not been large, there is evidence that a number of firms have been aggressive in international trade activities.

Approximately 725 firms are listed in the latest Directory of Montana Manufacturers. Listed below are those companies which employ 50 or more persons in the categories of agriculture, minerals and timber, and they represent most of the largest firms in the State.

Agriculture

Conagra Montana, Inc., Great Falls
General Mills, Great Falls
Great Falls Meat Co., Great Falls
Great Western Sugar Co., Billings
Holly Sugar Co., Sidney
John R. Daily, Inc., Missoula
Midland Empire Packing Co., Billings

Minerals

American Smelting & Refining Co., East Helena
Anaconda Co., Butte
Columbia Paint Co., Helena
Continental Oil Co., Billings
Exxon Co., Billings
Farmers Union Central Exchange, Laurel
Ideal Cement Co., Trident
Kaiser Cement Co., Helena
Phillips Petroleum Co., Great Falls
Stauffer Chemical Co., Butte
W. R. Grace Co., Libby
Westco Refining Co., Cut Bank

Timber

C & C Plywood Co., Kalispell
U.S. Plywood Division, Bonner
Del Connor Lumber, Inc., Darby
Diamond International Corp., Superior
Evans Products Co., Missoula
Hoerner Waldorf Corp., Missoula
Idaho Pole Co., White Sulphur Springs

Timber - Cont'd

Intermountain Lumber Co., Missoula
Louisiana Pacific Co., Philipsburg
Pack River Lumber Co., Polson
Plum Creek Lumber Co., Columbia Falls
St. Regis Paper Co., Libby
Stoltze Land & Lumber Co., Columbia Falls
Yellwstone Pine Co., Belgrade

Energy and Fuels

As the nation struggles for gas, oil, coal, electical energy and fuel, Montana is fortunate to be more on the "have" side than the "want" side of the scramble.

Beginning with an electrical generation base founded on water, Montana is able to produce some 9,388 million kilowatt hours (KWH) of electricity. About 83% of this amount is based on hydro-electric generating dams.

But while expansion of hydro-electric power is limited, with some new stations coming on line in 1975-76, low-sulphur coal is abundant in eastern Montana.

The Fort Union Basin, a mammoth coal deposit scattered through eastern Montana and three neighboring states and Canada, contains an enormous quantity of coal. More than 42 billion tons relatively close to the surface and strip-minable are in eastern Montana.

In 1975 and '76 two mine-mouth power plants totaling 700MW will start feeding electricity into the state and neighboring western states. These are mine-mouth plants because they are located near the coal mines eliminating long distance shipping of the coal.

Additional electrical energy will also come on line in 1975 from the Libby Dam project in northwest Montana. Four units of 121 megawatts each will be phased into operation starting in July 1975. Congress has authorized an additional 4 units to be completed in 1983. This would double the capacity of the first four units and give the project the ability to produce 968 megawatts. Planned but not approved are 4 generating units for a regulating dam located just below the main project. If authorized these additional units would add another 50 MW.

When, where, and how future electric generating plants will be built now require 600 days of public study under the state's Utility Siting Act. The purpose of this act is to evaluate the compatibility of plant site locations and potential pollution with the environment and needs of the citizens.

Montana has also enacted a land reclamation law to protect and restore the environment in those areas that are strip-mined. Montana coal is particularly attractive because of both its low-sulfur content which reduces pollution and also because of its great quantity within small areas. Unlike eastern U.S. strip-mines where coal beds may be only 3-4 feet thick, the coal seams here are frequently 16 ft. or even 30 ft. thick. In fact the relative thickness of the coal seams at depths less than 150 feet is indicated by the average of 37 thousand tons per acre.

With one-fifth of the United States' strippable coal lying in Montana, it is to be expected that this resource will have a major effect on the state's future. But it should also be noted that the coal resources of Montana are more than four times what is currently considered strippable.

Coal production has been rising steadily in recent years. Beginning with about 7 million tons in 1971 and 11 million in 1973, the Montana Energy Advisory Council has estimated production of some 42 million tons annually by 1980. This latter rate would indicate enough strippable coal for a thousand years, although the rate is expected to climb much higher.

The outlook for other fuels in Montana is mixed. Both natural gas and oil are produced in the state with extensive exploration continuing.

In 1974, Montana's proven recoverable reserves of natural gas amounted to 1,092 billion cubic feet. In addition, 772 billion C.F. of proven reserves were under contract by the Montana Power Company in Canada. Approximately 45 billion C.F. were produced in the state in 1973 while about 80 billion C.F. were consumed. Of the amount consumed, about 59% was imported from Canada.

The Montana Power Company has stated that while residential and commercial customers evidently will have gas for the near future, supplies for large industrial customers is short.

One proposed answer to potential gas shortages is the refinement of coal into gas. This has been done in some

countries, however the technology remains largely untested for large scale efforts. One of the drawbacks to conversion of coal into gas is the apparent huge amount of water that is consumed in the process-water that may otherwise be used for agriculture. Numerous companies, however, are exploring avenues of converting coal to gas to head off future shortages.

Oil production in Montana remained steady at about 34 million barrels a year through 1973, just before the U.S. entered its energy crunch. Exploration for oil was stepped up in 1974 and the refineries in the state have operated at full capacity ever since.

Montana was fortunate during the '73-'74 gasoline shortage. It did not share the experience of many parts of the country. There were no long lines at gas stations.

Alternative energy sources are also being explored in Montana. Through a grant from the National Science Foundation, research has been conducted near Helena on potential geothermal energy. The idea is to tap the heat inside the earth to power steam generators and produce electricity.

The western U.S. and particularly Montana, seem to produce higher heat flow measurements closer to the surface than in other areas of the country. One area northwest of Helena, the state capitol, shows a heat flow ten times that for the region. Drilling during 1974 proved inconclusive, but additional research remains to be done.

The potential indicates cheap production of electrical energy if a means can be devised to tap hot solid rock or hot

water or steam lying within the earth.

The future of consistent, relatively inexpensive electrical energy looks good for Montana contrasted to many other parts of the country. Water from the rivers of Montana power turbines, providing most of the state's energy with additional increases coming later this decade. This, plus the abundant coal supplies, and the potential for using the earth's own heat, indicate a reliable future.

Agriculture

Agriculture stands as a major force in the Montana economy with a continued upward growth curve. Contributing some $1 billion in direct cash receipts annually, agri-business ranks as the state's leading basic industry.

Whithin the framework of total U.S. wheat production, for instance, Montana ranks fifth; in barley, its second; sugar beets, tenth; alfalfa seed, fourth; crested wheatgrass production, first; cattle numbers, fourteenth (but ninth in cow-calf numbers); and sheep numbers, seventh.

Grain production, Montana's "Golden Bonanza," produced cash receipts of $470 million in 1973. The 100 million bushel wheat crop is unique in that both spring and winter wheat are sent to market. Much of the high quality wheat is in demand on the international market.

Other Montana crops include dry beans, red clover seed, potatoes, corn, flaxseed, mustard seed, sweet and sour cherries,

poultry, hogs, honey and other crops that advertise Montana's reputation as a name-brand state.

Emerging as a growing force in the agricultural picture is the livestock feeding industry. Numbers of cattle placed in feedlots more than doubled over the last ten years to greater than 220,000 head. Similar expansion occured in the swine industry. However, both potentials have barely been tapped, even in the sometimes uncertain market conditions surrounding feedlots.

The Land Base

This vast state, fourth largest in the U.S., rates second in acres of farmland. Usable range, pasture and cropland account for 62 million acres. Of this domain, 16 million acres produce cash crops, with some 2 million classified as irrigated.

The rangelands principally graze cattle and sheep. These pastures, as well as the dryland wheat and barley farms, are vast but manageable.

Montana has witnessed adjustments in the numbers and sizes of farms, as have most areas. In 1945, there were 40,800 farms with an average size of 1,550 acres. In 1971, the number stood at 24,953 farms with an average 2,521 acres.

Montana Agri-Business Crops -- Highlights

Wheat and barley have long been produced in Montana and have recently been widely exported. Normally, total production

comprises 50-55 million bushels of winter varieties, 40-50 million bushels of spring varieties, and approximately 5 million of durum. Barley production averages between 50 and 60 million bushels which includes both quality livestock feed and malting types.

Montana farmer-ranchers harvested 2.4 million tons of hay in 1973, valued at $229 million. Alfalfa hay accounted for approximately 2 million tons, with the rest in wild grass, timothy and clover. Montana hay is generally top-quality, high in protein content and strong enough so that in many areas no more than one to two tons is needed to winter a cow and calf.

Because of its abundance, several alfalfa pelleting plants have been established, with opprotunities for additional plants. Such plants could produce for both Montana and for export to other states and countries.

Certified seed potatoes is a growing program in Montana. From fertile valleys surrounded by mountains, additional acres are being certified. In 1970, certified seed acres numbered 4,783 with 185 certified virus free, by 1973 these figures became 4,613 certified and 1,664 virus free.

Honey production ranks as another important Montana industry. The state is the largest producer of truly premium quality honey, and is known as the heart of mild-flavored, heavy-bodied, clover honey production.

Most commercial honey packers in the U.S. consider Montana honey too superior in quality to pack directly, so it

is blended with inferior-flavored and high-moisture honeys of other regions.

Approximately 8 million pounds of the delicate low-moisture, clover-flavored honey, is produced annually. The predominant source of nectar are wild yellow sweet clover and alfalfa. There is major growth potential for honey production both from uncultivated areas and irrigated sweet clover forage areas. Some agriculture sources estimate production could be increased by 36% within five years. The industry already has a bulk facility to efficiently handle and ship honey.

Beef of superior quality has long been produced in Montana, as the state's reputation testifies. The picture of cattle peacefully grazing in lush mountain meadows is a realistic view as more than 3,380,000 head are spread over Montana's acres. The large beef herd, which ranks eighth in the nation, produced 1,730,000 calves in 1973, more than any of the other 11 western states.

The industry and its representative agencies have been innovators in disease eradication programs, performance, indexing, artificial insemination, and purebred herd development.

Montana beef breeding stock are known as genetically superior in the feedlot and in carcass quality. The herds now have a higher percentage of performance indexed individuals than any state in the nation.

The "premium" of purebred seed stock beef cattle of the U.S. are found in Montana. In the last two years, Montana

breeders have been the number one producer of quality purebred seed stock in the nation and the world. In the last two years, the National Steer Champion, the National Champion Polled Hereford Bull, the National Champion Polled Hereford Heifer and the National Champion Shorthorn Bull came from the Big Sky Country. Montana is recognized for premium Charolois, Angus, Hereford, Polled Hereford, Shorthorn, Simmental, Main Anjou, and Limosine cattle.

Hog production is a strong and growing industry. From 1950 to 1965, the pig crop fluctuated around 250,000 head per year. From 1969 to 1973, the pig crop ranged from 319,000 to a high of 430,000 in 1971 to 357,000 in 1973 and illustrated a strong increase in the production trend.

Approximately one-half of the 357,000 hogs produced in Montana in 1973 were shipped out-of-state, either live or as pork. It requires about 226,000 hogs to produce the pork consumed in the state each year. Due primarily to the marketing structure of the United States supermarkets, a large portion of this local demand is supplied by processed pork imported from midwest sources. Thus, Montana is in a solid net export position able to serve new markets.

High quality sheep are also produced in Montana. The average ewe produces 10 pounds of wool annually and at least one lamb. The total production of 8,501,000 pounds of wool and 625,000 lambs in 1973 ranked the state sixth nationally.

Trout farming is also growing in Montana. Farmers and ranchers are raising trout for processing by a Montana firm

much the same as other livestock. This a largely untapped food source and production possibility.

Montana agri-business is an example of dynamic change and applied technology. As it moves through this decade it will play an increasingly more important role in the economic and social well-being of Montana and significantly contribute to supplying the demand of domestic and international markets.

Transportation

Efficient movement of people and goods is a basic necessity for economic growth, as well as general well-being. Montana's former reputation as a state hard to get around in, is fading rapidly.

Major highways now criss-cross the state connecting the major communities and commercial centers of other states. The Interstate System includes I-90 going east-west from Chicago, Minneapolis, Bismarck, through Montana to Spokane and Seattle. I-15 runs north-south from Canada through Montana to Salt Lake City and points beyond.

In addition to the Interstate, other major U.S. highways cross Montana. These include U.S. 2 along the highline, running east-west just below the Canadian border and around Glacier National Park. U.S. 12 and 87 run through the middle of the state while U.S. 93 runs north-south in the western part connecting I-90 to U.S. 2 for traffic to Flathead Lake and Glacier National Park. Of course numerous state highways and county roads connect all of Montana's communities.

Railroads traverse the state to offer major service to shippers and receivers of goods and products. More than 5,000 miles of rail connect Montana points to other states and markets. The major lines serving the state are the Burlington Northern and the Milwaukee Railroad along with the Union Pacific.

Heavy rail has been laid on the main lines and constant effort maintains the tracks in top condition for speedy movement of freight.

Passenger service is also offered by Amtrak on the Burlington Nothern's lines running east-west along both the north border and through the southern route across the state.

Fast freight schedules carry Montana goods to California, the Gulf Coast, Mississippi valley and to ships heading for Alaska. The railroad's services also extend to industrial sites and development research and aid.

Bus lines serve all Montana, large Montana communities and most small towns. Efficient freight service as well as passenger service is offered.

Air transportation is growing in Montana. A new terminal recently opened in Billings while another is finishing completion at Great Falls. Helena, the state's captiol, has plans underway for a new passenger terminal while completion is scheduled for 1975 on a livestock air shipping facility adjacent to the airport.

The major lines serving Montana include: Northwest Orient, Western, Frontier and Hughes Air West. Both passenger and freight service is offered.

The Port of Butte is a recently opened shipping facility specializing in containerized cargos received directly from ships docking at Seattle, or for foreign shipments through the Seattle port. The Port of Butte offers low cost unpacking and breaking down of shipments for distribution to other U.S. ports plus warehousing facilities.

The Helena livestock shipping facility offers direct air shipment of live animals such as cows to foreign markets. Shipments have already been made to Japan and other Asian markets.

Both the Port of Butte and Helena air facility are unique ports offering cost savings to importers and exporters serving the Northwest, Midwest and other parts of the U.S.

Tourism

Tourism offers opportunities for many persons and communities of Montana, besides great times for the welcomed visitor.

MONTANA, is the Great Vacation Escape . . . an escape to acres of wilderness and back country living, an escape to uncrowded highways, an escape to campgrounds, an escape to fresh pure water and air that's never been breathed before, an escape to the uncluttered life.

Montana is a vast paradox . . . actually two states in one. The east is rolling prairies, colorful badlands, cattle and oil country . . . much of whose history and development centers around two of the nation's great rivers: the Missouri and the Yellowstone. It was in eastern Montana where Pierre

Wibaux became one of the world's largest cattle raisers after giving up a silk and dye industry in France to "go west". It was in eastern Montana where Lt. Col. George A. Custer and every member of his command met defeat at the hands of Sioux and Cheyenne warriors in the valley of the Little Bighorn River. The Custer Battlefield is now a National Monument. It was in eastern Montana where Captain William Clark carved his name on a great sandstone pillar in 1805. Pompeys Pillar is today the only remaining physical evidence of the Lewis and Clark expedition as it traversed the Louisiana Purchase. Today's eastern Montana welcomes visitors with sightseeing on Indian Reservation, rodeos, wild horse sales, rockhounding, float trips, and plenty of hunting and fishing.

Western Montana is something else . . . towering mountains, shimmering lakes, over 16 million acres of public land in 11 national forests, blue ribbon trout streams and Glacier National Park. It was in the western section of the state where western artist, Charles M. Russell, lived and painted until his death in 1926. It was in western Montana that GOLD was king in the late 19th century, where vigilantees, stage robbers and millionaires flourished and left a heritage that has never died. It was in western Montana where Lewis and Clark discovered the birthplace of the Missouri River. Today that birthplace, Three Forks, is a State Monument. It was in western Montana where Chief Joseph of the Nez Perce encountered the U.S. Army in a historic battle in 1877. Western

Montana saw the state's first white settlement, its discovery of gem sapphires, and its wealth of copper in Butte, "the richest hill on earth". Today's western Montana welcomes visitors with modern dude and guest ranches, hiking, back-packing, float trips, excellent fishing and hunting, rodeos, rockhounding, skiing, snowmobiling, and ghost-town exploring. All of Montana invites you to escape . . . to enjoy the west as it was . . . and the west as it is . . . friendly, wide-open, spacious and fun.

Montana also boasts two of America's most famous National Parks -- Yellowstone and Glacier.

The fact that Montanans treasure their state and its past is evident by the actions of many of its communities and citizens. Preservation and restoration of St. Mary's Mission in Stevensville, south of Missoula, is an example of community spirit and pride that has resulted in a lasting tribute and treasure for all Americans.

Other examples of such effort abound across Montana, from those who participate in retaining the memory of Custer's Last Stand, restoring the Bozeman Hotel, building a Pioneer Village in Great Falls, or restoring Helena's famed Reeder's Alley which fosters the arts and crafts.

Visitors have a multitude of choices in Montana, which is probably why its a growing area of interest for visitors. Besides the 'historic' there is the country itself. A back-packer's dream enjoyed by both the avid hiker and the casual

walker, and even the tour bus passenger.

Some parts of the big sky country can be described as both country and historic. Like Virginia City, a once dying ghost town, now preserved so the visitor can see what life was then, and even enjoy an old-fashion play.

Gates of the Mountains near Helena is historic because it was so named by the explorers, Lewis & Clark, for its very appearance. Yet this scenic area is also breathtaking for its beauty and striking steep rock formations along the Missouri River and original Indian paintings on the rocks.

The opportunity for expansion of recreation facilities remains multi-faceted. The publication "Opportunities for Outdoor Recreation in Montana" by the Soil Conservation Service is one reference source complete with maps.

Testimony to Montana's growth as a year-round vacation land is visible from the activity already occuring throughout the state. The largest and perhaps most nationally known project is Big Sky of Montana, spearheaded by the late Chet Huntley. This recreation resort near Yellowstone National Park, features year-long activities ranging from golf to dude ranching to skiing. Two distinct "villages" lie on the property, one in the "meadow" and the other in an "alpine" setting. The awe-inspiring gondola ski lift can be ridden just for sight-seeing, winter or summer.

The Fairmont Hot Springs resort at Gregson near Anaconda, features year-round activity with the central attraction being

the three indoor and outdoor pools fed by natural hot springs. Nearby skiing and other outdoor activities complete this recreation-convention complex.

Flathead Lake and Big Mountain near Whitefish offer many activities from skiing to boating only a few miles from famed Glacier Park. And only a few miles from Yellowstone National Park, Ski Yellowstone is being planned by noted skier Hans Geier with opportunities for outdoor activity every month of the year.

But the joy of being a tourist also lies in seeing towns and people that live a different lifestyle, and there are few different than those with western big sky casualness and friendship. Montana communities are sharing these attributes with their visitors by being sure their town is always a place one is proud to visit and live in, a town that says welcome.

Government Services

Montana welcomes responsible new industry and business ventures. In fact, the state provides property tax incentives to certain industries to encourage them to locate in Montana. In addition, the state freeport law eliminates inventory taxes on goods-in-transit through Montana.

State government has gone through a series of efficiency and modernization moves in recent years. A new constitution was adopted in 1972 to replace the original 1889 version. The executive branch of state government was reorganized by either eliminating or consolidating some 160 boards, bureaus

commissions into 19 major agencies under the direct jurisdiction of the governor. This reorganization makes it easier for industry and all private citizens to know whom to contact about particular concerns.

Sources of industrial financing include industrial revenue bonds, the Development Credit Corporation of Montana, banks and other lending institutions and local development corporations. Federal agencies such as the Small Business Administration, the Economic Development Administration, and the Farmers Home Administration are quite aggressive in Montana.

Montana has no general sales or use taxes, but has personal and corporate income taxes. Property taxes account for approximately 54% of tax revenue although the state grants a 77% reduction in property taxes for the first three years of operation to new qulifying industries. Also, a permanent 77% tax reduction is granted for air pollution control equipment.

The state eliminates inventory taxes on merchandise stocks produced outside Montana and in transit through the state to final destinations outside Montana. This merchandise can be stored in-state and work can be performed upon it, but it must be destined for out-of-state shipment.

Montana's economic development division serves new or expanding industry by providing information needed to make location or expansion decisions. The division also provides

aid in arranging financing and by arranging meetings that may help a firm with its business problems. Another function of the division is to help analyze markets and promote marketing of Montana products.

Climate and Environment

The Big Sky Country says 'environment', but few 'outsiders' know or understand its pleasing climate. And even the mountain environment pcitured in most minds is typical of less than half the state . . . there are so many different and exciting "lands" in Montana.

"Clean and Clear" stand as the by-words describing the Treasure State. People have been known to say the sky is too blue, it can't be real . . . but its there.

The Montana landscape is ever chaning, ever different. Eastern parts of the state are strikingly different from the west as are the southern reaches from the north. From ravine etched, lightly rolling eastern portions a traveller gradually climbs to the eastern slopes of the great rocky mountains. Upon meeting the mountains, the traveller discovers the western third of the state is a series of majestic mountain ranges and sweeping valleys laced with lakes and streams.

Temperatures and other climatic factors vary widely both within Montana and at the different seasons. It is true that a few areas often have record temperature extremes of hot and cold, but these are usually sparsely populated areas of the state and do not reflect the temperatures where most Montanans live.

Covered by a swath of emerald forests, golden wheat farms, rolling ranches, coursing clean waters and star gazing mountains, Montana lacks the smog of metropolitan areas, deteriorating water supplies and other environmental hazards so frequently found elsewhere in the United States.

Snows do come to Montana, but so do chinook winds, which can change a dry zero degree situation into a balmy 50 degrees in but hours, and keep it there for days. In fact, these famous chinook winds come regularly enough to ease the tensions of snow and cold.

The dry climate makes most people feel that it isn't quite so hot or cold as the thermometer might say. The summers have the best combination with warm to hot days for enjoying the sprawling outdoors and cool nights for relaxed, sound sleep.

Besides thriving, friendly communities, the Montana landscape is dotted with historical reminders of the past. These ghost towns, archelogical sites and old west trail locations impart upon the Montana environment a unique flavor, a unique sense of meaning and belonging.

The environment abounds with wildlife. Deer, elk, antelope, bear, duck, and trout are all found in the natural habitat along with numerous other native wildlife species. In fact, a zoo of North American animals would be almost unrealistic to the average Montanan who can see wild game simply by taking a hike or casual drive. And a visit to one of the

state's two National Parks (Glacier and Yellowstone) will frequently bring visions of many other species including mountain goats.

The Big Sky Country is indeed as varied as it is big. But its changing landscapes, temperatures and moisture seem to make it all that much more attractive. You can be in your home state knowing that only an hour or two away, your home is completely different, and you're equally welcomed there.

SUMMARY

Potential Opportunities for Investment in Montana

I. Agriculture

A. Livestock

1. Swine Production
2. Cattle Feeding

a. Commercial feedlots
b. Consignment feeding
c. Meat packing

3. Poultry
4. Trout
5. Mushrooms
6. Live Cattle

B. Land Development

1. Irrigation
2. Cash Crop Contracting

C. Grain Production and Conversion

1. Flour Milling
2. Starch Plants
3. Oil Seed Crops

a. Mustard seed
b. Safflower
c. Crambe

4. Grain Storage

II. Minerals

A. Coal

1. Export
2. Conversion

a. Mine mouth generation
b. MHD
c. Gasification
d. Liquefaction
e. Nuclear enrichment
f. Form coking
g. Petrochemicals

1. Fertilizer
2. Basic chemicals
3. Synthetic fabrics

B. Iron and Steel

1. Mini-mill-recycling
2. Pelletizing
3. Stainless steel

C. Non-Metallics

1. Bentonite
2. Vermiculite
3. Asbestos
4. Clays
5. Rare earths
6. Phosphate fertilizer

III. Wood Products

A. Conversion

1. Plywood
2. Particleboard
3. Chip-board-flakeboard (wood residues)
4. Paper and pulp

B. Manufacturing

1. Cut-up plants
2. Furniture
3. Housing

IV. Recreation

A. Destination Resort Development

B. Tourism

1. Company employee tours
2. Tourist agencies
3. Company conferences

V. Manufacturing

A. Clothing

B. Plastics

C. Electronic Components

D. High Technology -- Research support from Montana State University

VI. Trade

A. Port of Butte

B. Agriculture Products

C. Trade Organization Participation

D. Montana Livestock Export Center, Helena

COAL DEVELOPMENT IN MONTANA AND ASSOCIATED NEEDS

Coal Development Indicators

Reserves

Unlike all other conventional energy sources in Montana, coal reserves virtually pose no limits to future coal-related energy development. Socio-economic considerations, however, and water availability are major constraints. Table I provides coal reserve, tons per acre, and coal quality data for 62 Eastern Montana coal fields. As new information from current drilling programs becomes available, the total of 42.6 billion tons of strippable reserves will surely be increased. Figure 1 locates the coal deposits listed in Table I.

Prospecting

Pursuant to the 1973 Montana Strip Mine Reclamation Act, an exploration permit is required before uranium or coal prospecting may proceed. Table 2 provides summary data on the 90 exploration permits issued by the Department of State Lands from June 1973 to October 1974. Twenty-eight permits have been issued for uranium prospecting, three for coal and uranium and 59 for coal. Four additional exploration permits have been issued since October. Figure 2 shows areas of intensive exploratory drilling.

Table 1:

MONTANA BUREAU OF MINES AND GEOLOGY

Strippable subbituminous and lignite coal fields, eastern Montana

No on map	Name of field	Coal bed	Est. reserves in millions of tons	Acreage	Average tons/acre	Ash[1]	Sulfur[1]	Btu[1]
1	Decker	Anderson-Dietz 1&2	2,239.99	25,523	87,763	4.0	.40	9,652
2	Deer Creek	Anderson-Dietz 1&2	495.65	14,214	35,397	4.0	.50	9,282
3	Roland	Roland	218.04	12,076	18,055	9.2	.74	8,164
4	Squirrel	Roland	133.41	6,208	21,490	5.5	.29	7,723
5	Kirby	Anderson	216.52	5,655	38,285	4.2	.32	8,328
		Wall	473.69	5,952	79,579			
		Dietz	834.35	17,516	47,630	5.8	.59	8,509
		Canyon	158.53	4,066	38,983	5.8	.24	8,789
6	Canyon	Wall	1,884.25	23,859	78,974	4.6	.30	9,088
		Brewster-Arnold	65.86	2,067	31,859	7.5	.40	8,444
7	Birney	Brewster-Arnold	180.55	6,969	25,905	5.1	.41	9,055
8	Poker Jim Lookout	Anderson-Dietz	872.65	19,609	44,501	5.2	.37	7,925
9	Hanging Woman Cr	Anderson	1,583.29	30,547	51,830	4.9	.29	8,496
		Dietz	1,120.96	43,654	25,678	5.5	.33	8,078
10	West Moorhead	Anderson	883.74	19,660	44,949	5.3	.36	8,296
		Dietz	397.49	20,416	19,469	4.1	.41	7,990
		Canyon	690.19	22,547	30,611	5.6	.45	8,055
11	Poker Jim O'Dell	Knobloch	373.29	7,890	47,311	5.1	.22	8,846
		Knobloch	564.78	7,187	78,581			
12	Otter Creek	Knobloch	2,075.55	25,791	80,475	4.7	.36	8,468
13	Ashland	Knobloch	2,696.20	27,200	99,125	4.8	.15	8,421
		Sawyer A & C	357.49	20,262	17,643	4.9	.49	7,883
14	Colstrip	Rosebud	1,439.26	33,379	43,118	9.5	.12	8,836
15	Pumpkin Creek	Sawyer	2,426.50	45,695	53,102	7.5	.34	7,438
16	Foster Creek	Knobloch	708.13	27,801	25,470	7.8	.76	7,573
		Terret	460.87	27,462	16,782	5.8	.21	7,770
		Flowers-Goodale	258.90	14,444	17,924	7.8	.51	7,553
17	Broadus	Broadus	739.82	18,429	40,142	7.2	.27	7,437
18	East Moorhead	T	525.21	15,559	33,756	6.2	.57	7,120
19	Diamond Butte	Canyon	418.02	21,363	19,566	4.8	.43	7,330
20	Goodspeed Butte	Cook	628.95	13,446	46,775	10.6	1.63	6,771
21	Fire Gulch	Pawnee & Cook	336.69	8,486	39,674	3.8	.33	7,739
22	Sweeney-Snyder	Terret	326.33	10,921	29,880	9.1	.11	8,175
23	Yager Butte	Elk & Dunning	1,175.86	26,924	43,673	4.8	.33	7,646
		Cook	312.02	14,507	21,507	6.7	.63	7,254
24	Threemile Buttes	Canyon & Ferry	225.40	13,836	16,289	5.5	.94	6,867
25	Sonnette	Pawnee	320.25	8,224	38,940	9.8	.88	6,964
		Cook	362.98	10,470	34,668	8.1	1.23	6,891
26	Home Creek Butte	Canyon & Ferry	217.21	4,851	44,774			
27	Little Pumpkin Creek	Sawyer A&C, D, X, & E	215.83	8,534	25,290			
28	Sand Creek	Knobloch	267.34	5,952	44,915	6.6	.30	7,340
29	Beaver-Liscom	Flowers-Goodale & Terret	135.87	8,851	15,350	8.1	.96	8,102
		Knobloch	491.62	17,075	28,791	7.7	.50	8,027
30	Greenleaf-Miller Creek	Rosebud, Knobloch, and Sawyer	453.71	14,918	30,413	7.5	.71	8,422
31	Pine Hills	Dominy	193.87	6,022	32,191	7.2	.53	7,293
32	Knowlton	Dominy (M & L)	747.51	19,613	38,112	7.1	.41	6,710
		Dominy (U)	120.31	4,448	27,048	5.6	.38	6,645
33	Sarpy Creek	Rosebud-McKay	1,500.00	42,373	35,400	6.5	.50	8,600
34	Cheyenne Meadows	Knobloch	1,200.00	13,560	88,500	4.1	.40	8,400
35	Little Wolf	Rosebud-McKay	314.00	7,411	42,370			
36	Jeans Fork		90.00	3,800	23,685			
37	Wolf Mountains		1,922.00	31,000	62,000			
38	Lame Jones	Dominy	150.00	10,593	14,160			6,020
39	Lamesteer	Harmon(?)	35.00	1,978	17,700			6,332
40	Wibaux	C	643.00	18,518	34,720	7.9	.90	6,050
41	Little Beaver	C	134.00	8,445	15,865			
42	Four Buttes	C	91.00	5,180	17,570			6,140
43	Hodges		10.00	807	12,390			
44	Griffith Creek		10.00	568	17,700			

Strippable subbituminous and lignite coal fields, eastern Montana

No. on map	Name of field	Coal bed	Est. reserves in millions of tons	Acreage	Average tons/acre	Ash[1]	Sulfur[1]	Btu[1]
45	Smith-Dry Creek	G	150.00	8,475	17,700			
46	O'Brian-Alkalie Creek		150.00	8,475	17,700			
47	Breezy Flat	Pust	200.00	7,062	30,090	6 7	.50	6,660
48	Burns Creek	Pust	200.00	7,062	30,090			
49	N.F.Thirteen Mile Creek	Pust	225.00	5,085	44,250			6,880
50	Fox Lake	Pust	46.00	2,166	21,240			6,880
51	Lane	Lane	561.00	44,582	12,390			7,150
52	Carroll	Carroll	345.00	29,780	11,584	5.5	.30	7,400
53	Redwater River	S	642.00	24,181	26,550	6.1	.40	7,400
54	Weldon-Timber Creek	S	724.00	25,565	28,320			7,660
55	Fort Kipp	Ft. Kipp-Ft. Peck	331.00	14,500	22,830	4.6	.20	6,110
56	Lanark	Lanark	100.00	3,531	12,390	6.3	.40	6,853
57	Medicine Lake		58.00	3,740	15,510	7.2	1.00	6,870
58	Reserve		246.00	18,231	13,495	7.6	.40	6,599
59	Coal Ridge	Coal Ridge	150.00	19,200	17,700	7.5	40	5,830
60	Carpenter Creek	Carpenter	50.00	3,211	14,015	6.5	.40	9,270
61	Charter	Mammoth	60.00	3,210	17,700	6.0	.90	10,190
62	Little Sheep Mtn.	A&C	200.00	10,272	19,470			
		TOTAL	42,561.93	1,152,640				

[1]"As received" basis (where more than one sample available, figures given are average figures).

By Robert E. Matson

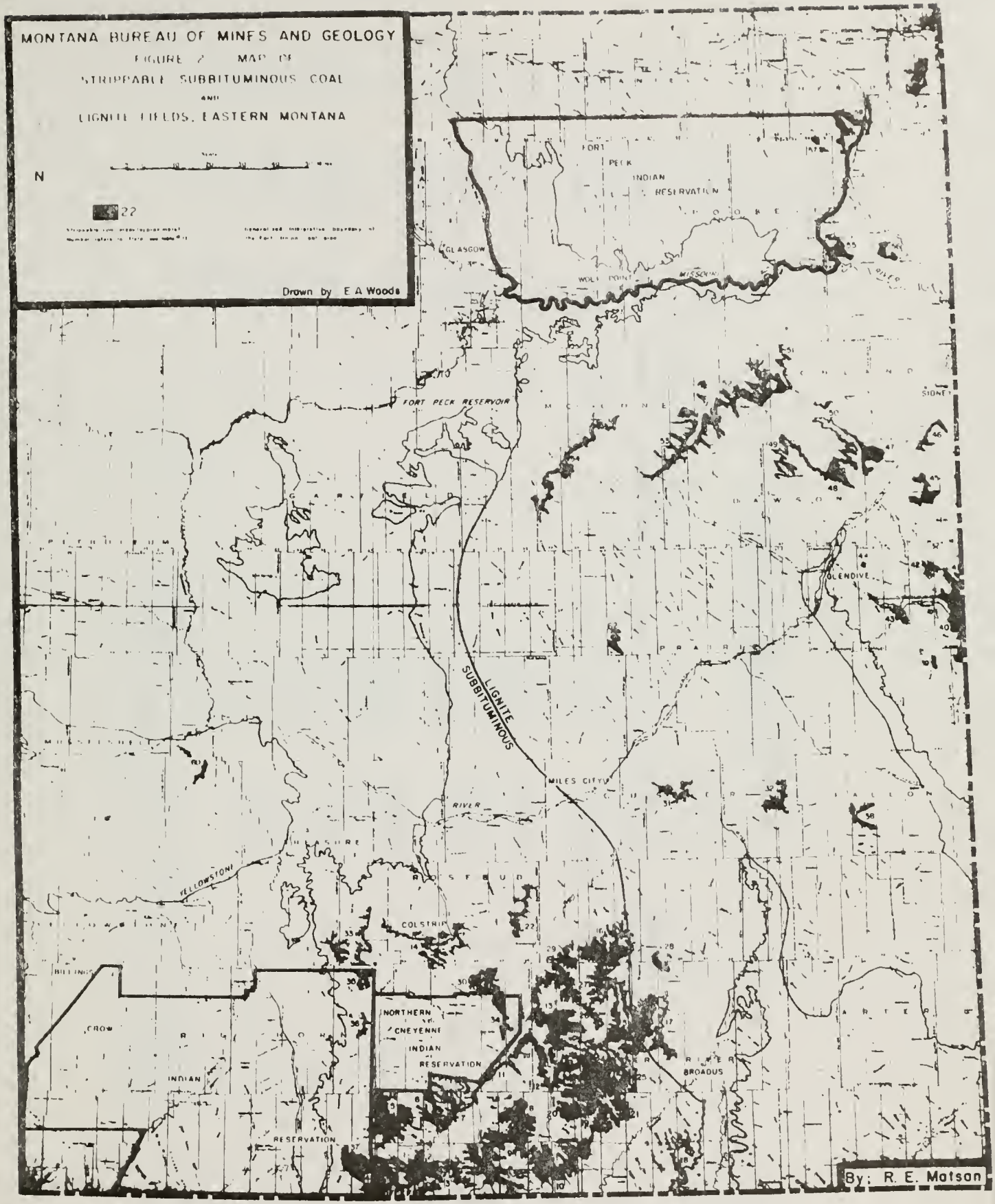

MONTANA BUREAU OF MINES AND GEOLOGY
FIGURE 2 MAP OF
STRIPPABLE SUBBITUMINOUS COAL
AND
LIGNITE FIELDS, EASTERN MONTANA
N
22
Drawn by E A Woods
FORT PECK INDIAN RESERVATION
GLASGOW
WOLF POINT
FORT PECK RESERVOIR
SIDNEY
GLENDIVE
LIGNITE SUBBITUMINOUS
MILES CITY
YELLOWSTONE RIVER
COLSTRIP
BILLINGS
CROW INDIAN RESERVATION
NORTHERN CHEYENNE INDIAN RESERVATION
BROADUS
By: R. E. Matson

Table 2: Status of Prospecting Permits
Chapter 325, SLM, 1973

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1]	Holes Drilled [2]	County	Mineral	Status [3]
Kerr-McGee	1	5/24/73	5	6/30/73 Reissued 10/1/73	40,000	30.0	333	Carter	Uranium	Expired 10/1/74
Peabody Coal	2	6/1/73	23	9/4/73 Reissued 10/29/73	164,500	154.5	1,228	Rosebud	Coal	Renewed 10/29/74
Peabody Coal	3	6/1/73	24	9/4/73 Reissued 10/29/73	63,300	53.3	0	Powder River	Coal	Renewed 10/29/74
Mobil Oil	4	6/8/73	3	6/21/73 Reissued 9/21/73	38,500	28.5	188	Carter	Uranium	Expired 9/21/73
Tenneco Coal	5	6/11/73	2	6/14/73 Inactive	20,000	7.9	44	Prairie	Coal	Expired 9/28/73
Tenneco Coal	6	6/11/73	1	6/14/73 Inactive	20,000	11.3	76	Dawson	Coal	Expired 9/28/73
Tenneco Coal	7	6/14/73	4	6/15/73 Inactive	27,700	27.7	75	Custer	Coal	Expired 9/28/73

1/ Area to be disturbed = number of holes x 1/10 acre per hole.
2/ Holes drilled -- compiled from monthly progress reports submitted through October 15, 1974.
3/ Status -- if blank, permit is active.

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1/]	Holes Drilled [2/]	County	Mineral	Status [3/]
Mobil Oil	8	6/21/73	8	6/30/73 Reissued 10/25/73	20,000	1.5	20	Wibaux	Coal Uranium	To Be Renewed-Inactive
Mobil Oil	9	6/21/73	7	6/30/73 Reissued 10/25/73	20,000	1.0	11	Fallon	Coal Uranium	To Be Renewed-Inactive
Mobil Oil	10	6/21/73	6	6/30/73 Reissued 10/25/73	20,000	13.5	99	Dawson	Coal Uranium	To Be Renewed-Inactive
Felmont Oil	11	6/22/73	15	8/6/73 Reissued 9/21/73	77,500	63.5	429	Carter	Uranium	Renewed 9/21/74
Sun Oil	12	7/2/73	9	7/16/73 Reissued 9/21/73	17,100	7.1	54	Powder River	Coal	Expired 9/21/74
Mobil Oil	13	7/9/73	12	7/30/73 Reissued 9/27/73	20,000	3.4	26	Mussel-shell	Uranium	To Be Renewed-Inactive
Mobil Oil	14	7/9/73	11	7/26/73 Reissued 10/2/73	20,000	2.4	14	Yellow-stone	Uranium	Renewed 11/1/74
Utah International	15	7/12/73	14	7/31/73 Inactive	20,000	1.0	12	Custer	Coal	Expired 9/28/73
Teton Exploration	16	7/13/73	16	8/6/73 Inactive	20,000	3.3	25	Fallon	Uranium	Expired 9/28/73
American Nuclear	17	7/18/73	13	7/31/73 Inactive	13,300	4.5	26	Carter	Uranium	Expired 9/28/73

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1/]	Holes Drilled [2/]	County	Mineral	Status [3]
Decker Coal	18	7/18/73	10	7/23/73 Reissued 9/21/73	150,000	140.0	716	Big Horn	Coal	Renewed 9/21/74
Tenneco	19	7/18/73	20	8/10/73 Reissued 9/26/73	24,100	14.1	76	Richland	Coal	Expired 9/26/74
Tenneco	20	8/1/73	17	8/6/73 Inactive	20,000	10.8	87	Fallon	Coal	Expired 9/28/73
Tenneco	21	8/1/73	18	8/6/73 Inactive	20,000	2.4	16	Carter	Coal	Expired 9/28/73
Tenneco	22	8/1/73	22	8/23/73 Reissued 9/27/73	20,000	6.3	14	Rosebud	Coal	Expired 9/27/74
Mobil	23	8/2/73	21	8/13/73 Reissued 9/21/73	20,000	6.0	44	Garfield	Uranium	Expired 9/21/74
Western Energy	24	8/8/73	19	8/9/73 Reissued 9/27/73	100,000	90.0	854	Rosebud	Coal	Renewed 9/27/74
Mobil Oil	25	8/8/73	27	10/2/73	20,000	0.7	5	Golden Valley	Uranium	Renewed 11/1/74
Western Nuclear	26	8/20/73	33	10/9/73	20,000	0.5	5	Carbon	Uranium	Expired 10/9/74

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1]	Holes Drilled [2]	County	Mineral	Status [3]
Montana Nuclear	27	8/27/73	Never Issued - No Bond Submitted				0	Carter	Uranium	Not Issued
Wold, John S.	28	8/30/73	34	10/25/73	20,000	4.5	15	Wibaux	Coal	Expired 10/25/74
Mobil Oil	29	9/4/73	32	10/17/73	22,000	0.3	1	Petroleum	Uranium	Renewed 11/1/74
Mobil Oil	30	9/4/73	31	10/17/73	76,000	1.8	9	Judith Basin	Uranium	Renewed 11/1/74
Mobil Oil	31	9/4/73	30	10/17/73	56,000	4.3	19	Fergus	Uranium	Renewed 11/1/74
Tenneco	32	9/4/73	25	9/26/73	30,700	20.7	110	Wibaux	Coal	Renewed 9/26/74
Westmoreland Resources	33	9/28/73	26	9/28/73	16,900	6.9	64	Big Horn	Coal	Expired 9/28/74
Tenneco	34	9/18/73	39	10/31/73	17,400	7.4	55	McCone	Coal	Expired 10/31/74
Tenneco	35	9/18/73	40	10/31/73	12,400	2.4	26	Garfield	Coal	Expired 10/31/74
Tenneco	36	9/18/73	29	10/15/73	15,000	5.0	13	Roosevelt	Coal	Expired 10/15/74
Tenneco	37	9/18/73	28	10/15/73	14,500	4.5	38	Sheridan	Coal	Expired 10/15/74
Burlington Northern	38	10/10/73	46	12/12/73	20,000	1.6	14	Fallon	Coal	

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1/]	Holes Drilled [2/]	County	Mineral	Status
Continental Oil	39	10/17/73	38	10/30/73	10,400	.3	3	Powell	Uranium	Expired 10/30/74
Continental Oil	40	10/17/73	37	10/30/73	11,300	.8	8	Gallatin	Uranium	Expired 10/30/74
Consolidation Coal	41	10/24/73	44	11/26/73	14,300	4.3	12	Prairie	Coal	
Consolidation Coal	42	10/24/73	43	11/26/73	43,500	33.0	103	Custer	Coal	
Continental Oil	43	10/17/73	35	10/30/73	10,800	1.0	8	Broad-water	Uranium	Expired 10/30/74
Continental Oil	44	10/17/73	36	10/30/73	10,600	1.0	2	Deer Lodge	Uranium	Expired 10/30/74
Continental Oil	45	10/31/73	41	11/5/73	11,500	1.1	11	Sweet Grass	Uranium	
Mobil Oil	46	11/19/74	50	1/7/74	17,000	4.0	14	Richland	Coal	
Wold, John S.	47	11/19/73	42	11/20/73	20,000	0.7	3	Roosevelt	Coal	
Mobil Oil	48	11/26/73	45	12/12/73	13,000	2.8	9	McCone	Coal	
Phillips	49	12/11/73	53	1/16/74	10,800	0.8	4	Dawson	Coal	
Phillips	50	12/11/73	51	1/16/74	14,700	4.7	14	Custer	Coal	

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1/]	Holes Drilled [2/]	County	Mineral	Status
Phillips	51	12/11/73	52	1/16/74	12,000	2.0	13	Prairie	Coal	
Tenneco	52	12/12/73	47	12/17/73	18,800	4.5	40	Fallon	Coal	
Tenneco	53	12/13/73	48	12/18/73	18,100	3.1	25	Dawson	Coal	
American Nuclear	54	12/17/73	49	12/18/73	see 13	0.7	7	Carter	Uranium	
Burlington Northern	55	1/3/74	56	2/4/74	15,000	3.5	37	McCone	Coal	
Western Energy	56	1/3/74	60	2/25/74	22,000	12.0	43	Custer	Coal	
Western Energy	57	1/3/74	54	1/18/74	45,000	35.0	167	Fallon	Coal	
Western Energy	58	1/3/74	55	1/21/74	14,000	4.0	13	Carter	Coal	
McCartney, Clay H.	59	1/17/74	57	2/11/74	25,000	15.0	101	Blaine	Coal	
Mobil Oil	60	1/24/74			20,000	10.0	0	Rosebud	Coal	Not Issued
Consolidation Coal	61	2/15/74	58	2/19/74	33,000	21.4	0	Treasure	Coal	
Consolidation Coal	62	2/15/74	59	2/19/74	32,700	21.4	59	Big Horn	Coal	
Consolidation Coal	63	3/19/74	64	6/24/74	48,100	38.1	171	Rosebud	Coal	
Getty Oil	64	4/26/74	82	9/19/74	15,000	4.6	0	Dawson	Coal	
Getty Oil	65	4/26/74	79	9/13/74	12,000	2.0	0	Richland	Coal	
McCartney, Clay H.	66	4/30/74	62	5/28/74	15,000	3.0		Hill	Coal	

Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1/]	Holes Drilled [2/]	County	Mineral	Status
Amax Coal	67	5/2/74	74088	10/7/74	11,900	1.9	0	Powder River	Coal	
Concho Petroleum	68	5/7/74	61	5/10/74	10,300	0.3	3	Big Horn	Coal	
Utah International	69	5/15/74	71	7/22/74	13,000	2.3	18	Madison	Uranium	
Continental Oil	70	5/28/74	65	7/2/74	0	0	0	Jefferson	Uranium	Inactive
Continental Oil	71	5/28/74	66	7/2/74	0	0	0	Madison	Uranium	Inactive
Chevron Oil	72	5/30/74	63	6/13/74	15,000	3.0	11	Garfield	Coal	
Gulf Mineral	73	6/11/74	67	7/2/74	20,900	10.9	73	Custer	Coal	
Gulf Mineral	74	6/13/74	68	7/2/74	18,800	8.8	65	Powder River	Coal	
Exxon	75	6/13/74	69	7/10/74	10,300	0.3	0	Silver Bow	Uranium	
Exxon	76	7/1/74	72	7/24/74	31,300	21.3	45	Carter	Uranium	
Knife River Coal	77	7/2/74	70	7/15/74	10,600	0.6	0	Richland	Coal	
Wold, John	78	7/5/74	75	8/6/74	20,000	1.2	13	Dawson	Coal	
Sun Oil	79	7/5/74	73	7/25/74	12,000	2.0	0	Richland	Coal	
Sun Oil	80	7/5/74	74	7/25/74	18,900	3.0	70	Dawson	Coal	
Consol	81	7/17/74	84	10/1/74	15,000	5.0	1	Powder River	Coal	
Mobil	82	7/26/74	77	9/4/74	11,200	1.1	-	Powder River	Coal Uranium	

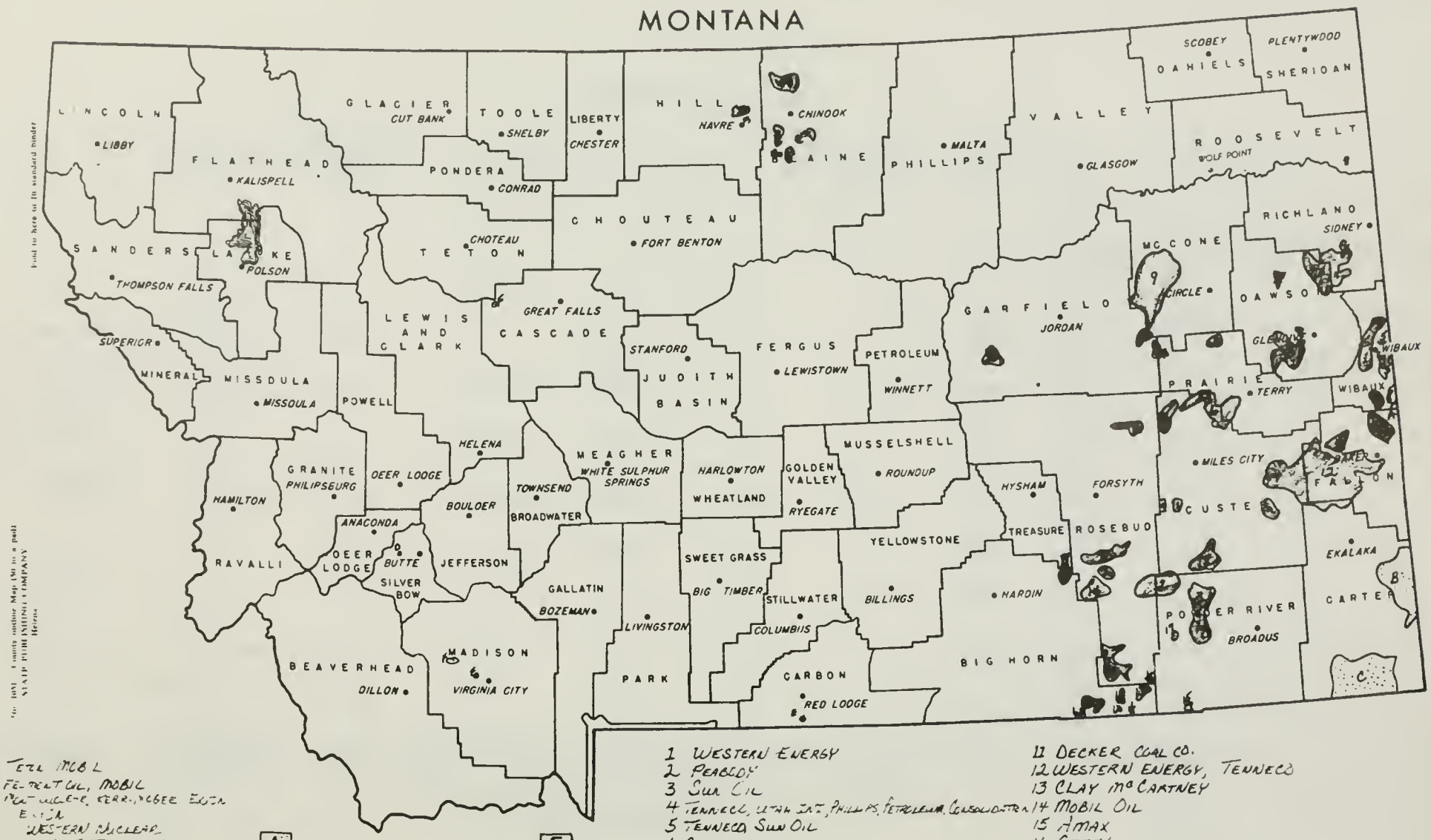
Table 2 Cont'd.

Company	Application Number	Date	Permit Number	Date Issued	Bond	Area To Be Disturbed (Acres) [1]	Holes Drilled [2]	County	Mineral	Status
N.P.G.	83	8/1/74	80	9/11/74	12,300	2.3	0	Big Horn	Coal Uranium	
Utah International	84	8/5/74	81	9/11/74	15,000	3.3	-	Cascade	Uranium	
Irisafulli	85	8/2/74	76	8/27/74	11,900	1.9	19	Dawson	Coal	
N.P.G.	86	8/16/74	78	9/6/74	12,500	2.5	0	Powder River	Coal Uranium	
Utah International	-	9/3/74	85	10/4/74	18,000	8.0	0	Garfield	Coal	
Utah International	-	9/3/74	86	10/4/74	15,000	4.3	0	Prairie	Coal	
Utah International	89	9/3/74	87	10/4/74	13,000	2.9	0	McCone	Coal	
Agri-Empire, Inc.	90	10/15/74			12,100	2.1		Prairie	Coal	Not Issued

[1] [2] Total Bond on File $1,179,500
Total Holes Permitted 10,758
Total Holes Drilled 6,026
Data current as of October 15, 1974.

RECLAMATION DIVISION
DEPARTMENT OF STATE LANDS

Figure 2



1 WESTERN ENERGY
2 PEABODY
3 SUN OIL
4 TENNECO, UTAH INT., PHILLIPS PETROLEUM, CONSOLIDATION
5 TENNECO, SUN OIL
6 CONSOLIDATION
7 CONSOLIDATION TENNECO
8 JOHN WOOD
9 TENNECO, BURLINGTON NORTHERN, MOBIL
10 TENNECO MOBIL GETTY
11 DECKER COAL CO.
12 WESTERN ENERGY, TENNECO
13 CLAY McCARTNEY
14 MOBIL OIL
15 AMAX
16 GETTY
17 UKG CO.
18 GULF
19 UTAH INTERNATIONAL
20 CHEVRON

A
OIL & GAS

5
COAL

PROSPECTING ACTIVITY
CHAPTER 325 SLM 1977

NOTE: OUTCROP AREAS WHERE COAL OCCURS ON 1/2 MILE CENTERS OR CLOSER ARE REPRESENTED

Leasing

As evidenced by Table 2, these vast reserves are being actively explored. Coal leasing data also document great corporate interest in developing the Fort Union coal deposits of Eastern Montana. According to the Northern Great Plains Resource Program, approximately 36,000 acres of federal coal, 58,000 acres of state coal, and 77,000 acres of Indian-owned coal have been leased in Montana.

Reflecting public concern about cumulative impacts of coal development, the last state coal lease sale was held in May 1970. A defacto federal coal leasing moratorium is still in effect with new federal leases essentially limited to those necessary for continuation of existing strip mining operations. Both the Northern Cheyenne and Crow Tribes have petitioned the Secretary of the Interior for cancellation of existing Indian coal leases. Hence, the status of the 77,000 acres of Indian coal leased is in doubt.

Given the constraints on acquisition of rights to public-owned coal, it is not surprising that explosive lease, option and surface rights acquisition has taken place on privately-owned surface and mineral estates in Eastern Montana.

Most significant are the lease and lease option data compiled in the summer of 1974 for 12 Eastern Montana counties by Action for Eastern Montana.[1] The county-by-county summaries

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1. *Action for Eastern Montana is a non-profit, Glendive-based corporation primarily funded by the federal government. Its major function is to analyze the needs of 17 Eastern Montana counties in terms of education,*

presented in Table 3 indicate that energy corporations and lease brokers have obtained interest in over 1,000,000 acres. The interests are primarily in the form of leases of surface and/or coal holdings, options to lease and mining leases which essentially convey the rights to strip mine. No data on the disposition of massive Burlington Northern coal reserves are included in Table 3.

The first data following each county name marks the date of the first recorded lease or option. The second date marks the last filing noted by the survey.

Projected Changes in the Demographic Composition of Selected County Populations

The primary locus of anticipated coal development in Montana is within a six-county area in Southeastern Montana. The counties most likely to be immediately affected by coal development are Big Horn, Custer, Powder River, Rosebud, Treasure and, to a lesser degree, Yellowstone Counties. Other coal development activities may occur in other Eastern Montana counties, especially in Garfield, Prairie, McCone and Dawson Counties, if coal gasification technologies come to fruition. However, no research has been done, to date, in anticipation of development effects on demographic characteristics of the populations of those counties.

(1-Continued) transportation, housing, aging, health and medical service. The corporation undertook the coal and surface lease inventory because coal development may greatly influence future levels of services needed. For certain counties, coal, bentonite and uranium lease data were not separated.

Table 3
Action for Eastern Montana
Data on Private Coal and Surface Leases, Etc.

Carter County (Jan. '66 - May '74)
Coal, Uranium and Bentonite Activity

	Acres
Mining Leases	93,464
Mining Claims	143,495
Surface Agreements	6,729
Exploration With Option Lease	9,160
Grand Total	251,848

All listed mining claims are not coal related, but are for bentonite or uranium. The mining leases can be for coal, uranium or bentonite. (The contracts did not specify)

Custer County (May '70 - July '74)

Coal Leases	27,544
Surface Agreements	3,468
Exploration and Option for Coal Lease	115,080
Grand Total	146,092

Dawson County (July '70 - June '74)

Coal Leases	102,645
Surface Agreements	42,412
Mining Leases	7,204
Oil, Gas and Mineral Leases	2,080
Grand Total	154,341

Fallon County (Sept. '72 - July '74)

Abstract of Option for Coal Lease	135,758
Coal Leases	15,877
Surface Agreements	7,525
Abstract of Instrument Coal Lease - Surface Agreement	20,850
Grand Total	180,010

Table 3 Cont'd

	Acres
Garfield County (Dec. '68 - May '74)	
Coal, Uranium and Mineral Lease	20,131
Mining Claims	1,040
Royalty Conveyance	580
Mineral Deeds	8,960
Grand Total	30,711
McCone County (May '72 - May '74)	
Coal Leases	60,482
Surface Agreements	38,950
Mining Leases	8,153
Grand Total	107,585
Powder River (Oct. '66 - May '74)	
Coal Leases	87,168
Surface Agreements	24,720
Exploration with Option to Coal Lease	35,580
Oil, Gas and Mineral Lease	880
Grand Total	148,348
Prairie County (Dec. '72 - Feb. '73)	
Exploration with Option to Acquire Coal Lease (Must be exercised by Dec. 2, 1974).	7,380
Coal Lease	640
Grand Total	8,020
Richland County (May '72 - April '74)	
Coal Leases	21,492
Surface Agreements	12,980
Options of Coal Lease	2,560
Grand Total	37,032

Table 3 Cont'd

	Acres
Rosebud County (June '59 - July '74)	
Coal Leases	43,654
Surface Agreements	12,887
Mining Leases	28,760
Options for Coal Lease	15,515
Options for Surface Lease	6,785
Deeds, Indentures, Contracts (coal related)	16,720
Grand Total	124,321
Treasure County (Oct. '67 - June '73)	
Exploration and Option for Coal Lease	9,680
Coal Leases	4,480
Surface Agreements	7,420
Combination Leases	6,100
Bentonite Leases	3,840
Grand Total	31,520
Wibaux County (Mar. '72 - Mar. '74)	
Coal Leases	16,391
Surface Agreements	37,169
Mining Leases	32,257
Grand Total	84,817

Excluding the mining claims in Carter County, a total of 1,162,150 acres have been obligated in some manner.

It should be noted that the anticipated development effects to be presented below are localized in nature. Except for possible shifts in political balances and ideologies, the changes are apt to be noted only within those counties in which development occurs, and within adjacent counties to a lesser degree.

Generally speaking, five of the six counties to be most immediately affected by coal development are primarily rural, agricultural counties. Yellowstone County, as a major trade center, a site of significant petroleum activity and the state's largest urban population, is the exception to this trend. Yellowstone County also is the county in which coal development is expected to have the least immediate impact.

While the remaining counties are primarily agricultural and rural, the proportion of the population engaged in agricultural activities has declined. Government and oil extraction employment has increased. This is especially true in Powder River County where oil and gas production activity has been high, although it has declined somewhat in recent years. Custer County, the site of numerous federal offices, a V.A. hospital, a state industrial school and a community college, has relatively high government employment. The county seat of Custer County, Miles City, also is the largest community and trade center among the five rural counties.

More specific discussions of the counties are presented below.

Big Horn County

Big Horn County, with the twentieth largest county population in Montana, has the state's second highest proportion of non-white persons as residents. The non-white representation is due almost entirely to the Crow Indian Reservation. The county also displays the highest fertility rate and second highest crude birth rate in Montana, again due, primarily, to the Crow Reservation.

Per capita income and level of educational attainment in the county are the third lowest and lowest, respectively, of all Montana counties. The civilian labor force is largely employed in blue collar, farm or service occupations (62.3 per cent of CLF).

Assuming large-scale coal development, Jobes (research done on contract to the Department of Natural Resources and Conservation, 1974) projects pronounced demographic change over the next 30 years. The young age structure noted in the county is expected to remain relatively unchanged although the ratio between white and non-white populations is expected to stablize. This is due to the assumption that the majority of immigrants attracted by coal development will be white. The trend of slow, steady population increase in Big Horn County is expected to be replaced by rapid and steady increase. Jobes expects some increase in level of educational attainment of the county populations and a proportional shift to industrial employment, with a decline in agricultural employment.

Custer County

Custer County is the fourteenth most populated county in Montana, with 74 per cent of its population residing within municipalities. The age structure of the county is relatively old, with outmigration noted among the productive years population group. Like many Eastern Montana counties, Custer has lost population gradually during past years. The minority component of the county population is small.

The median family income of the Custer County population is nearly average for Montana, ranking twentieth in the state. A high percentage (70.6 per cent) of the labor force is employed in white collar or government occupations. The level of educational attainment is near the Montana average.

Assuming large-scale development, Custer County is expected to see a reversal in the trend of net population loss. Miles City, as the county seat and an area trade center, is expected to expand in response to development demands in the goods and services sectors. Jobes expects little change in county population characteristics. If change is noted, Jobes expects it to occur in the age structure of the county, with an influx of younger persons. Some increase in the blue collar occupational group may be noted.

Powder River County

Powder River County has the second smallest population in the state, and is entirely rural. The population displays a high fertility level and a relatively young age structure. The level of educational attainment of the population is near

the state average.

Major occupational groups are related to agriculture and extraction of petroleum resources. Powder River County ranks lowest in the state in proportion of government workers and nearly the lowest for white collar employees.

Due to major development of petroleum resources, the county population displays high employment levels, high median family incomes and low poverty levels. In contrast to most rural Montana counties, the Powder River County population grew 15.2 per cent in the decade 1960-1970.

Assuming major development, Jobes predicts considerable change in Powder River County. As coal development proceeds, transportation facilities will necessarily expand, in effect opening up Powder River County to persons attracted to the area by employment opportunities. Given this occurrence, population increases, largely by non-rural, non-fram groups, will create additional demand for government and community services that now barely suffice the needs of present residents. In addition, the advent of sizeable numbers of newcomers is apt to result in the development of urbanized areas.

Rosebud County

Like many other rural Montana counties, Rosebud County lost population in the decade between 1960 and 1970. Since 1970, however, Rosebud County has experienced significant and rapid growth in population.

Rosebud County has a large non-white population component, due to the presence of the Northern Cheyenne Indian Reservation, whose residents account for 30 per cent of the county population. Like Big Horn County, Rosebud County displays a very high fertility ratio and crude birth rate (second highest and highest in the state, respectively) largely due to the presence of the reservation. The economic aspect of the county in 1970 was not particularly favorable; mean family income was fourth lowest in the state and per capita income was fifth lowest. Unemployment rates were high in 1970, and the population's level of educational attainment was among the lowest ten counties in Montana. Occupational opportunities were primarily in agricultural and service pursuits.

Rosebud County is now the site of the most intensive coal development activity in the state. Population growth has been so large and rapid that community and government services have been unequal to demands. Jobes predicts that this condition will continue and that Rosebud County will remain the Montana county most affected by coal development. Jobes expects that the age structure of the population will remain young until development activities are well established. Blue collar employment is expected to become the largest component of the labor force, displacing agriculture. Service and professional-managerial employment opportunities are apt to increase, as well. Jobes suggests that educational and economic levels will increase within the county but that these benefits will not be shared equally by the presently disadvantaged population groups.

Treasure County

With the third smallest population of all Montana counties, Treasure County lost population more rapidly than all but six counties (20.5 per cent between 1960 and 1970). The age structure of the county is similar to that of other Eastern Montana counties, though more pronounced; slightly over 38 per cent of the population was less than 18 years of age in 1970, while nearly 11 per cent was aged 65 or older. The population group comprising adults in the productive years showed the greatest decline, due to outmigration.

Though the level of educational attainment in the county is high (sixth highest in Montana), and employment was high, median income levels were among the lowest in the state. Employment opportunities are primarily in the agricultural and service sectors.

Given large-scale development, Jobes predicts a slight increase in population followed by a gradual decline. Current educational and social characteristics of the population are not expected to change. Jobes does expect the occupational structure of the county to change to a higher proportion of non-agricultural and non-professional employment opportunities.

Yellowstone County

As the most populated county of the state, Yellowstone County incorporates one of the two, and the largest Montana Standard Metropolitan Statistical Area. Only a small percentage of Yellowstone County residents are rural farm or rural non-farm dwellers (4.7 per cent and 8.6 per cent, respectively).

A high proportion of the county population is employed in manufacturing, government and white collar occupations. County median income is fifth highest in the state, and per capita income of residents ranks thirteenth.

County educational levels are well above the state average. The age structure of the county is one of a predominantly young population, with the disproportionately high young adult population contributing to a high crude birth rate (eleventh highest in the state). The age component of the county population is relatively low, with only 8.1 per cent of county residents aged 65 years or more.

The county is expected to continue it growth, with or without coal development, with its county seat, Billings, becoming increasingly important as a regional production and distribution center. Coal development will only reinforce this trend.

Jobes does not expect development activities to significantly alter the age-sex, occupation, race or education structures of the county. In short, any foreseeable change resulting from coal development is expected to be only one part of the general development underway in the county.

Indian Reservations - Crow

Located on some 1.5 million acres of land, the Crow Indians numbered 4,334 persons in 1973, an increase of nearly 18 per cent over the previous decade. The age structure of this population indicates an extremely young population,

43.6 per cent of which is aged 16 or less. Just over 33 per cent of the Crow population is aged 25 to 64; adults in the young productive years (25-44) number only 22.7 per cent. Nearly two-thirds of the population is aged 24 or less. Unemployment on the reservation is very high -- 11.6 per cent in 1970. The vast majority of employed Crows occupy agricultural or government jobs. Service sector employment also is significant.

Education and income levels of Crows also are low, with median family income equal to only 56 per cent of the comparable national figure. Some 39.4 per cent of Crow families had incomes below the poverty level in 1970.

Northern Cheyenne

Numbering 2,926 persons, the Northern Cheyenne occupy 434,420 acres of land just east of the Crow reservation. The Northern Cheyenne population has grown 35.1 per cent in the decade since 1963 -- a dramatic increase. The Northern Cheyenne are a young people, too, with 64.8 per cent of their population aged 24 or less. Less than one-third of the Cheyenne are aged 25-64; adults in the young productive years (25-44) number only 21 per cent of the population. Cheyenne unemployment also is high at 11.1 per cent in 1970. Primary employment on the reservation is in government and timber-related occupations. Service and agricultural employment account for about 25 per cent of all jobs.

Median family income is quite low, just above that of the Crows, as are education levels. Some 38.6 per cent of Northern Cheyenne families had 1970 incomes below the poverty level.

Coal development could bring considerable benefits to both reservations, increasing employment opportunities and incomes. However, large-scale development could inundate both reservations with non-Indian populations foreign to and both unfamiliar with and unsympathetic toward Indian culture and values. There also is a question whether employment, based upon the extraction of coal reserves, will be acceptable to many Indian people. For these, and other reasons, considerable sentiment is growing on both reservations in suspicion of or opposition to coal development.

Projected Coal Production

Table 4 conveys the Montana Energy Advisory Council's conservative estimate of Montana coal production for years 1974 through 1980. Except as footnotes indicate, it is based on existing coal sales contracts. The table was compiled in late October 1974 and arbitrarily assumes, for purposes of calculation, that the future operations will meet the requirements of the Montana Strip Mine Siting, Mine Reclamation, Coal Conservation and Utility Siting Acts. Those future decisions will, of course, be determined by the regulatory agencies and boards, with full public involvement.

Table 4 Projected Montana Coal Production
From Coal Sales Contracts, By Year
(Data Gathered October 14 - 18, 1974 by MEAC Staff)

		1974	1975	1976	1977	1978	1979	1980
Peabody	1/	2,700,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Western Energy	2/	2,837,000	5,230,000	10,430,000	13,500,000	14,900,000	17,700,000	19,100,000
Knife River	3/	320,000	320,000	320,000	320,000	320,000	320,000	320,000
Decker	4/	7,000,000	8,250,000	10,900,000	10,900,000	14,500,000	12,100,000	13,900,000
Westmoreland	5/	1,500,000	4,000,000	4,000,000	6,500,000	6,500,000	6,500,000	6,500,000
Totals		14,357,000	20,800,000	28,650,000	34,220,000	39,220,000	39,620,000	42,820,000

1/ The Peabody figures are estimates obtained from corporate headquarters, St. Louis, Missouri. Another major sales contract for their Big Sky Mine near Colstrip is presently being negotiated.

2/ Projections for Western Energy's Big Sky Mine at Colstrip include coal consumed at Colstrip Units I and II for 1975 and beyond. For 1978 - 1980, they include coal that would be furnished to Colstrip Units III and IV. If Units III and IV are not approved by the State of Montana, a projected 13,500,000 tons would be mined each year. Yearly totals would drop accordingly.

3/ Knife River Coal's mine at Savage, Montana, produces lignite exclusively for the 50 megawatt Lewis and Clark steam plant near Sidney. The mine's annual production for the last eight years averaged just over 321,000 tons.

4/ Projected production for the Decker Coal Mine north of the Town of Decker drops from 1978 to 1979, reflecting a short-term contract that expires in 1978. It is very likely that future coal sales contracts will bring 1979 and 1980 projections to 1978 levels.

5/ Westmoreland Resources has not yet negotiated a contract or contracts that would boost projections for its Sarpy Creek Mine to 6,500,000 tons in 1977. The company recently provided two unit train test shipments to domestic utilities, and MEAC believes that coal sales at the elevated level can be almost definitely anticipated.

In addition to the production projected in Table 4, it is possible that some of the companies now conducting detailed exploration may be in a position to open new mining operations by late 1979 or 1980. Further, the Shell Oil Company has announced plans to open a two million ton per year strip mine in 1978 on the Crow Indian Reservation. Shell expects to expand production to eight million tons per year in 1980.

Table 5 breaks down the 1975 and 1980 projections by coal use. Clearly, almost all Montana coal produced through 1980 will be consumed in steam-fired electrical generation plants. Most of this utility coal will be burned in the Midwestern United States.

Displaced Activities

Four basic natural resources -- coal, land, water, air -- are necessary for existing and proposed coal mining and conversion operations. Coal reserves realistically pose no limit to potential coal-based development. Further, in the predictable future, non-energy uses of Montana coal are not likely to be precluded by conventional coal consumption.

Land and water, of course, are in limited supply. Future industrial use (pollution) of the Eastern Montana airshed also could displace existing commercial activities. Agriculture and tourism are most likely to be impacted by energy development.

Table 5: 1975 and 1980 Coal Production
By Coal Use (Millions of Tons)

1975 Electrical Generation in Montana		Coal for Export	
0.32	Knife River for Sidney Plant	4.33	Western Energy Co.
0.50	Western Energy for Corette Plant - Billings	8.25	Decker Coal Co.
		4.00	Westmoreland
0.40	Western Energy for Colstrip I (coming on line)	3.00	Peabody
1.22	million tons	19.58	million tons

1980

0.32	Knife River Coal Co.	10.00	Western Energy (min.)
0.50	Corette Plant	13.90	Decker Coal
3.00	Colstrip I and II (Western Energy)	3.00	Peabody
		6.50	Westmoreland
5.60	Colstrip III and IV (Western Energy)		
9.42	million tons	33.40	million tons

Surface Water

According to the U. S. Bureau of Mines,[2] current industrial water use in Eastern Montana is minimal and probably amounts to less than 10,000 acre feet per year (afy). In contrast, irrigation accounts for approximately 98 per cent of all water consumed statewide.

The Northern Great Plains Resource Program Draft Summary Report projects (high coal development profile) that the Northern Great Plains energy industry will consume 800,400 acre feet of water in the year 2000. Total corporate interest in Yellowstone Basin water (federal water use options, 623,000 afy; applications for federal options, 1,180,000 afy; filed water rights yet to be adjudicated by the State of Montana, 586,440 afy; applications for state water rights, 973,000 afy) is much higher, however.

Recognizing that much of this potential demand for Yellowstone Basin water is speculative and somewhat duplicative, it is still clear that considerable displacement of non-energy water uses may occur. Early in this study, it was recognized that a massive amount of new data had to be gathered before a complex array of water use tradeoffs could be evaluated with authority. Accordingly, MEAC prepared "A Proposed Series of Projects to Evaluate the Potential Physical, Biological and

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2. *Persse, F. H., and Willard, D. G., "Projected Water Requirements of New Mineral Industry in the Powder River Basin, Montana and Wyoming," U.S. Bureau of Mines, Preliminary Report 1972.*

Water Use Impacts of Water Withdrawals and Water Development on the Middle and Lower Portions of the Yellowstone River Drainage, Montana."

The Old West Regional Commission has executed a two-year, $550,000 contract with Montana state agencies to implement the study. The project will provide definitive projections of the extents to which irrigation, city water supplies and "in-stream values" will be affected by industrial water consumption. The proposal was endorsed by the NGPRP, EPA and the Bureau of Reclamation. It vividly indicates the very important role the OWRC has played in helping Old West Region states deal with challenges of energy development.

The final phase of the study involves an economic quantification of the projected displacements. It can already be predicted, however, that the coal industry will be able to pay a much higher price for Yellowstone Basin surface water than will all other competing users. Although the recreation and tourism industry does not pay for its use of Yellowstone Basin water, an economic displacement will occur if in-stream values diminish significantly.

While economics will play a role in resolving future water use conflicts, the decisions must involve political, social and life style considerations difficult to quantify.

We will return to a basic quation: "To what extent should Eastern Montana shift from rural, social and economic systems to an energy-industrial society?" Shifts from agricultural to

industrial uses of water are now occurring as energy corporations puchase existing water rights historically used for irrigation.

Groundwater

Disruption of groundwater flows and degradation of groundwater quality will decrease the productivity of impacted farms and ranches. In the Fort Union coal area, the coal seams themselves are generally the best aquifers in terms of both quantity and quality of water. If the target coal deposit serves as an aquifer, large strip mine operations unavoidably disrupt groundwater flow. As detailed in a recent hydrologic study,[3] water levels in monitoring wells near the Decker strip mine have dropped up to 25 feet during the first year of major mining operations.

Equally important, Van Voast summarized present knowledge about impacts of strip mining on groundwater quality as follows:

> "Spoil leachates sampled near Colstrip (Van Voast, 1973, and Montana Bureau of Mines and Geology unpublished data) contained dissolved solids concentrations much greater than waters sampled from nearby shallow aquifer; calcium and magnesium were found in much greater concentrations than sodium. The spoil waters also contain small concentrations of trace metals including copper, lead, zinc and nickel not found in other local waters. Near Decker, spoil waters are not yet available for analysis; the relatively high concentrations of sodium in waters in local aquifers corresponds with the high sodium concentrations found by Hodder and

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3. *Van Voast, Wayne, "Hydrologic Effects of Strip Coal Mining in Southeastern Montana -- Emphasis: One Year of Mining Near Decker, Montana," Montana Bureau of Mines and Geology Bulletin.*

> Sindelar for simulated spoils. If simple projections are valid, it can be predicted that spoil leachates at Decker will be even more strongly mineralized than those near Colstrip and that the principal cations be calcium, magnesium and sodium."

Shaley overburden materials, high in soluble salts and highly impermeable before mining, provide significant dissolved solids to percolating groundwater once they are fragmented and deposited in spoil piles. Diminished quality can make water as unavailable for livestock use as can the drying up of a producing well.

On a regional basis, the impacts of strip mining on groundwater are not likely to be of major consequence. But to the individual rancher who loses a water supply for his cattle, the consequences are overpowering. Premining site-specific studies are necessary to predict impacts of mining on groundwater and to determine if alternative water supplies are available.

Land

Analysis of economic displacements resulting from occupation of land by the coal-energy industry must be subjective at present. The big unknowns, of course, are the nature and magnitude of future coal development.

In an attempt to quantify potential land use trade-offs, the NGPRP made detailed projections for six counties in the Northern Great Plains Region. Combined year 2000 net disturbances (disturbed acres less reclaimed acres) in Big Horn and Rosebud Counties are 10,581 acres, 24,642 acres and 57,685 acres for the low, most probable and high development scenarios, respectively.

Combined gross disturbances were 21,493, 40,498 and 78,832 acres for the three scenarios.

In both counties, 80 per cent of the projected disturbances would impact rangeland. Forest lands would host ten per cent of the disturbances in Big Horn County and 15 per cent in Rosebud County, with the remaining disturbances falling on cropland (wheat and alfalfa).

Air

Montana tourism, which "sells" a clean, uncrowded environment, would surely be impacted if visibility and general air quality paralleled conditions in major urban, industrial areas. Also, the long-term cumulative impacts of SO_2 and trace element emissions on sensitive crops and native vegetation is simply not known. Although a number of relevant studies are proposed or underway, no accurate predictions can be made about sustained agricultural productivity downwind from western coal conversion facilities.

Major Funding and Research Needs Appropriate For OWRC Assistance

Water Resources

The on-going "Impacts of Industrial Water Consumption, Yellowstone Basin Montana" research and analysis project (described in the surface water subsection above) is supported by the OWRC.

Because of funding and authorization limitations, the OWRC was able to fund just two years of the three year proposal.

A one year continuation of the project is critical. At present, all work must cease June 30, 1976, essentially precluding significant field work in the Summer and Fall of 1976.

Hopefully the OWRC can provide funds for at least a 9 month extension of the project so that when the Yellowstone River water moratorium expires (Spring 1977), Montana water authorities will have a solid base from which to make water appropriation decisions.

In the Spring of 1974, the Montana Department of Natural Resources submitted a detailed proposal for an expansion of on-going efforts to adjudicate existing water rights in the Yellowstone Basin. OWRC assistance on both water related projects would do much to assure timely consideration of critical water allocation questions. All competing water use interests (energy industry, agriculture, recreation and domestic) would be well served by OWRC support.

Economic Research

1. Resource allocation studies: To date, no detailed economic studies have been proposed or conducted which examine coal development either in the context of time at various levels and types or in the context of the development of other natural resources. Such studies should be done at the state and regional levels, and should consider costs and benefits over several decades of time. Closely related to such studies is the concern of alternative economic development strategies. Investigations should address the questions of which form of economic develop-

ment offers the most favorable cost-benefit ratio, over time, and what mix of development strategies will offer the most viable and most diverse economic structure, over time.

In this context, extractive industrial development should be examined in light of its long-term productivity in comparison to the long-term productivity of agriculture, recreation-tourism, light industry, and so on.

2. Economic impact studies: Three economic studies examining Montana coal development impact were compiled in late 1974. None of these studies closely examined the costs of coal development in terms of effects upon exisitng primary economic activities in the development area. None of these studies, due to time, cost, and data constraints addressed impacts at a level finer than a several county aggregate, with the exception of a BIA study. The studies provide population, employment and income projections for the aggregate areas. Research efforts to correct these shortcomings are essential. Such research also should include costing the damage to the natural systems that sustain the state and contribute significantly to the quality of Montana life. The economic study of the Decker-Birney area will accomplish some improvement in this regard. In addition, the Bureau of Business and Economic Research (UM) is considering the development of an impact model that can be used at the county and community level -- this effort will require funding. Finally, some effort must be devoted to projecting costs of development to existing primary industries, as mentioned above.

Sociological Research

Impacts on formal communities, structures and institutions: An effort should be made to examine existing institutions and other social structures in the context of rapid industrialization. Such studies should provide decision-makers an insight into the value, workings and capabilities of such structures, the liekly impacts of industrialization upon them and should suggest strategies to avoid or mitigate negative impacts. Further, some research effort should address the methods and efficiency of interaction between formal and informal structures, and the impacts of industrialization upon those interactions. Finally, some effort must be expended in identifying and defining all available federal, foundation and other sources of financial support for coping with impacts, and in explaining the qualifying criteria for use of those financial resources.

Other Socio-economic Research

Settlement patterns: Assuming that industrial development of some type and form is inevitable for Montana, a critical need exists to develop optional settlement patterns for such development and attendant population increase. To date, no such research has been proposed or conducted. Ideally, this research should be truly interdisciplinary in nature, and should integrate both natural resource and human resource data. The end product envisioned would be a plan suggesting limits to growth in the development area, acceptable land use patterns

and optimal delivery of government and commercial services.

Government impacts: Considerable state agency effort has gone into consideration of alternative forms and organization of state, county and local government, to insure optimal efficiency, accessibility and accountability of those units. An effort must be made to inject consideration of various levels of development impacts into such examinations of government operations. Rapid industrialization at any site in Montana will place severe strains upon government units and also will affect considerable change in the makeup of political constituencies. An attempt must be made to understand the effects of such impacts before development decisions are made final.

Conclusion

Energy industrialization, although a relative newcomer industry in Montana, represents an ominous force which can radically change the natural character of the entire state. Conversion plants, strip mines, urban build-up and transmission lines will impact nearly every area of the state.

This possibility of industrialization comes at a time when Montanans and, indeed, all citizens, are more aware of the personal and societal values of a natural, unpolluted and uncrowded environment and Montanans have expressed little desire for rapid population growth (Montana Regional Land Use Conference, 1974).

Consequently, energy industrialization of Montana has emerged as a principal state issue, the resolution of which will largely determine the character of much of Montana and the quality of life it affords.

PROPOSED PUBLIC INVESTMENT PROGRAM

The proposed development program is divided into sector activities (e.g., health) with recommendations for Commission technical assistance projects and Commission supplements to Federal grant-in-aid programs.

TECHNICAL ASSISTANCE PROJECTS

The following energy related and non-energy related technical assistance projects will be submitted to the Old West Regional Commission for funding during FY 76.

Non-Energy Related Projects

Project:

To investigate the economic and technical feasibility of locating in central Montana a plant for producing Torula yeast from barley and soft wheat.

Applicant:

Central Montana District Six Council
Mr. Ralph Gildroy, Staff Director
Roundup, Montana

The Central Montana District Six Council is one of Montana's 12 multi-county districts which were established by Executive Order for planning purposes. The District Six Council is composed of the following counties: Fergus, Golden Valley, Judith Basin, Musselshell, Petroleum and Wheatland.

Project Description:

Currently there is a world-wide protein food shortage. Industrial production of yeast yields high quality protein and vitamins for human consumption as well as animal feed use. At present, there is no plant in our region for producing yeast. In Montana, barley is a particularly attractive substrate for yeast production because the by-product, Brewers Dried Grains, is a valuable high-protein livestock feed ingredient for the Central Montana or regional market.

The purpose of this project is to prepare overall feasibility conclusions for the yeast plant, livestock production, feedlots, and slaughtering and processing facilities in the study area. Also included will be a description and analysis of the problems and prospects of the immediate and future development of this industry in the study area.

Project Cost: $21,290

Duration of Project: Six Months

Project:

Request for the Old West Regional Commission to assist in financing the 1977 National High School Rodeo to be held in Helena, Montana.

Applicant:

Helena '77 Rodeo Association
Mr. Roy Pace, President
P. O. Box 792
Helena, Montana 59601

Project Description:

The Helena '77 Rodeo Association feels that the National High School Rodeo will be one of the biggest tourist attractions in the Old West Region in many years. The 6,000 persons expected to attend will be traveling through all of the Old West States, eating, sleeping, and buying gas as well as visiting vacation spots along the way. The proposal is to set up overnight stops in North Dakota, South Dakota, Wyoming, and Nebraska and advertise them so those enroute to and from the rodeo will know where they can stop and find accommodations for both themselves and their horses. The big problem traveling with horses is finding overnight stops where the horses can be stabled and the Helena '77 Rodeo Association hopes to alleviate this problem, and at the same time to promote tourism in the Old West Region.

Project Cost: $46,500

Duration of Project: June, 1975 - August, 1977

Energy Related Projects

Project:

To do an in-depth comprehensive study of projected human service problems, emphasizing social services, in the Colstrip, Montana coal impact area. Included will be an action plan for the resolution of problems and trends, specifically those which can be resolved through county and state action, independent of federal regulation and funding complications.

Application:

Human Services Planning and Research Project
Office of Budget and Program Planning
Office of the Governor
Mr. James L. Pippard, M.S.W., Senior Planner
Helena, Montana

Project Description:

To date, there has not been an in-depth study of human service needs in Colstrip.

The purpose of this study is to examine in detail and to assess the needs for service in the following areas:

A. Mental Health
B. Counselling
C. Child Abuse and Neglect, Parenting Skills
D. Alcohol and Drugs
E. Crime-Adult and Youth
F. Basic Needs Assistance
G. Child Care - Children Needs

The specific recommendations of the report will be listed in a concise straight-forward manner, con-

cerning exactly what can be accomplished legally, administratively and politically in the Colstrip area to resolve its human service problems.

The major strength of this study of Colstrip's social needs will be transferability. Hopefully this study can be used as a model plan for other, future high economic impact areas occurring in Montana.

Project Cost: $45,231

Duration of Project: Six Months

Project:

Impact of coal industrialization on the administration of justice in the Northern Plains development area.

Applicant:

School of Law
University of Montana
Hugh V. Schaefer, Project Director
Missoula, Montana

Project Description:

The purpose of this research project is to study the effect on human life from one aspect of the total human environmental picture, the inter-relation of human activity with the societal controls of law

enforcement and administration as well as the court system. It will study the impact of coal industrialization on the justice systems governing the area of impact.

Project Cost: $80,711

Duration of Project: Three years

Project:

An analysis of local government forms and powers in the areas of Eastern Montana to be affected by coal development.

Applicant:

Bureau of Government Research
University of Montana
Mr. Lauren McKinsey, Project Director
Missoula, Montana

Project Description:

The purpose of this research project is to provide state and local decisionmakers with information on and analysis of: (1) the kinds of forms of local government which operate most effectively in situations of rapid growth related to energy, natural resource or other development and, (2) the kinds of local self-government power arrangements which facilitate both local capability and state control regarding issues affecting the lives of both local and state residents.

Lessons learned and documented in Montana should provide valuable lessons for other states in the region which might contemplate a similar approach.

Project Cost: $23,943

Duration of Project: One year

SUPPLEMENTAL FEDERAL GRANTS

Section 509 of the Public Works and Economic Development Act of 1965, as amended, provides for supplemental federal grants. The purpose of the program is to enable the states and communities in economic development regions, such as the Old West Region, to take maximum advantage of federal grant-in-aid programs for which they are eligible but for which, because of their economic situation, they cannot supply the required matching share. These supplemental grants must be approved by the Old West Regional Commission, and may be used to increase -- to a maximum of 80 per cent -- the federal share of projects assisted under certain federal grant-in-aid programs. For example, if the maximum federal contribution for the construction of an eligible project is 50 per cent, the locality involved would be required to supply a 50 per cent matching share. Under the supplemental grant program, the Old West Regional Commission may, through a supplemental grant, increase the federal contribution to the project from 50 per cent to 80 per cent of its eligible cost and thereby reduce the locality's share of the cost to 20 per cent.

The total amount of supplemental federal grant funds that will be requested from the Old West Regional Commission will be determined on a project by project basis after the Old West Regional Commission is declared eligible to participate in the supplemental federal grant program.

Proposed Health Program: Public Water Supply Projects

Listed below are estimates of needs for public water supplies. In addition, there are needs for replacement of deteriorated water mains, new water wells, and water storage facilities.

It should be understood that the cost figures provided are rough estimates. Until a community actually submits a preliminary engineering report to the Department of Health and Environmental Sciences, Water Quality Bureau, it is very difficult to assess a community's total needs.

The following communities have need for treatment and filtration (presently only have simple settling facilities and chlorination):

Community	Estimated Cost
Basin	$ 200,000
Bozeman	2,000,000
Conrad	500,000
Chester	150,000
Columbia Falls	500,000
Culbertson	100,000
Deer Lodge	500,000
Dillon	300,000
East Helena	200,000
East Glacier	200,000
Helena	1,000,000
Hill County Water District	150,000

Community (cont'd)	Estimated Cost
Hot Springs	100,000
Neihart	50,000
Philipsburg	200,000
Polson (also includes new main from reservoir)	1,000,000
Red Lodge	500,000
Ronan	200,000
St. Ignatius	100,000
Seeley Lake	100,000
Sheridan	100,000
Somers	150,000
Thompson Falls	100,000
Troy	100,000
Whitefish	300,000
White Sulphur Springs	100,000
TOTAL	$9,000,000

The following communities need new sources of supplies or treatment of existing well waters:

Community	Estimated Costs
Belt	$ 100,000
Big Sandy	300,000
Broadview	100,000
Coffee Creek	100,000
Denton	100,000
Flaxville	100,000

Community (cont'd)	Estimated Costs
Jordan	200,000
Lambert	100,000
Melstone	100,000
Nashua	500,000
Rapelje	100,000
Saco	300,000
Sunburst	500,000
Wolf Point	1,000,000
TOTAL	$3,600,000

The following need new water treatment facilities to replace existing out-dated facilities:

Community	Estimated Costs
Ashland	$ 600,000
Box Elder	200,000
Custer	300,000
Drummond	500,000
Gallatin Gateway	200,000
Hobson	200,000
Lakeside	500,000
Lavina	200,000
Libby Flats	400,000
Lincoln	800,000
Outlook	200,000
Rosebud	200,000

Community (cont'd)	Estimated Costs
Simms	300,000
Terry	1,000,000
Victor	400,000
West Yellowstone	1,000,000
Whitewater	200,000
TOTAL	$7,200,000

Summary

Treatment and filtration	$ 9,000,000
New sources of supplies or treatment of existing well water supplies	$ 3,600,000
Replacement of existing treatment facilities	$ 1,700,000
New systems to replace existing individual supplies	$ 7,200,000
Replacement of deteriorated mains or main extensions to serve new areas	$25,000,000
New water wells	$ 5,000,000
New storage facilities	$10,000,000
TOTAL	$61,500,000

Proposed Health Program: Municipal Wastewater Collection and Treatment Projects

An inventory of needs for municipal wastewater collection and treatment facilities as determined by the Montana Department of Health and Environmental Sciences' Water Quality Bureau is listed below. The Water Quality Bureau is responsible for

administering the Environmental Protection Agency's grant program for construction grant funding. Completion of existing priority projects will take essentially all of the available grant funds for the next two to three years. Therefore, all the projects listed below could benefit from the Old West Regional Commission's Supplemental Federal Grant Program.

Community	Estimated Costs
Circle	$ 100,000
Big Sandy	NA
Broadus	NA
Stanford	NA
Denton	280,000
Richey	NA
Gildford	NA
Dodson	NA
Rocky Boy	NA
Deer Lodge City & Prison	NA
Malta	550,000
Warm Springs	NA
Fairfield	130,000
Fromberg	75,000
Missoula Sewers	5,000,000
Whitefish Sewers	2,300,000
Kalispell Evergreen	NA
Belgrade	NA
Lakeside	NA

Community (cont'd)	Estimated Costs
Willow Creek	500,000
Amsterdam-Churchill	500,000
Bozeman Sewers	1,600,000
Dillon Sewers	NA
Plains	NA
Troy	1,300,000
Livingston Sewers	2,600,000
Lolo	NA
Sheridan Sewers	NA
Ulm	460,000
Swan Lake	NA
Clyde Park	NA
Melrose	NA
Harrison	NA
Martinsdale	NA
Basin	NA
Great Falls Sewers	12,000,000
Butte Sewers	250,000
Lewistown Sewers	700,000
Conrad	320,000
St. Ignatius Sewers	NA
Helena Sewers	1,600,000
Helena Valley	NA
Fort Benton	340,000
Ashland	NA

Community (cont'd)	Estimated Costs
Lincoln	NA
Billings Sewers	7,250,000
Miles City Sewers	NA
Sidney Sewers	NA
Roundup Sewers	NA
Stockett	425,000
Simms	475,000
Kremlin	NA
Geyser	NA
Havre Sewers	475,000
Kalispell Storm Sewers	2,000,000
Billings Heights	3,000,000
Huntley	NA
Great Falls Storm Sewer Sep.	1,150,000
Chinook	NA
Power Teton-Co. W. Assoc.	NA
Cut Bank Water Treatment	NA

Summary

1. Total cost indicated above: $45,380,000
2. Estimated cost for remaining projects: $9,620,000
3. Total cost (1 + 2): $55,000,000

PROPOSED HEALTH PROGRAM: HOSPITAL AND MEDICAL FACILITIES CONSTRUCTION PROJECTS

Listed below are estimates of needs for hospital and medical facilities construction projects.

General Hospital Facilities

City	Name of Facility	Estimated Cost
Polson	St. Joseph Hospital	$ 575,000
Ronan	St. Luke Community Hospital	935,000
Shelby	Toole County Hospital	495,000
Malta	Malta Hospital	200,000
Ennis	Madison Valley Hospital	495,000
Bozeman	Bozeman Deaconess Hospital	5,225,000
Helena	Shodair Crippled Childrens Hospital	350,000
White Sulpher Springs	Mountain View Memorial Hospital	495,000
Phillipsburg	Granite County Hospital	550,000
Anaconda	Anaconda Community Hospital	2,090,000
Big Timber	Sweetgrass Community Hospital	100,000
Scobey	Daniels Memorial Hospital	200,000
Plentywood	Sheridan Memorial Hospital	1,000,000
Jordan	Garfield County Hospital	100,000
Circle	McCone County Hospital	550,000

General Hospital Facilities (Cont'd)

Ekalaka	Dahl Memorial Hospital	$ 385,000
Miles City	Holy Rosary Hospital	1,130,000
TOTAL		$14,875,000

Long Term Care Facilities

Malta	Malta Hospital	$ 200,000
Choteau	Teton Memorial Hospital	560,000
Ennis	Madison Valley Hospital	780,000
White Sulpher Springs	Mountain View Memorial Hospital	640,000
Phillipsburg	Granite County Hospital	420,000
Scobey	Daniels Memorial Hospital	750,000
Plentywood	Sheridan Memorial Hospital	1,300,000
Jordan	Garfield County Hospital	345,000
Ekalaka	Dahl Memorial Hospital	500,000
Three Forks	Colonial Manors Corp.	800,000
Shelby	Toole County Hospital and Nursing Home	520,000
TOTAL		$ 6,815,000

Rehabilitation Facilities

Havre	$ 1,000,000
Helena	1,000,000

Rehabilitation Facilities (Cont'd)

Billings	$ 1,000,000
Miles City	1,000,000
TOTAL	$ 4,000,000

Public Health Centers

Billings	$ 200,000
Missoula	200,000
Great Falls	200,000
Butte	100,000
TOTAL	$ 700,000

Mental Health Centers

Great Falls	$ 1,000,000
Butte	1,000,000
Kalispell	500,000
TOTAL	$ 2,500,000

GRAND TOTAL	$28,890,000

PROPOSED AIRPORT PROGRAM

Project:

Montana State Airport System Plan update and Master Records Program.

Location:

State of Montana

Applicant:

Montana Division of Aeronautics

Project Description:

Initiation of a continuing planning process through the reappraisal and update of the Montana State Airport System Plan and its associated data bank.

Total Project Cost: $53,270.92

Basic Federal Grant: $35,478.43

Recommended Supplemental Grant: $7,138.31

Economic Impact: This project will provide Montana aviation with a viable airport system plan designed around changing aeronautical, socio-economic and environmental conditions. It will serve as the impetus for

future airport development within the state resulting in a reliable and continuing source of jobs in the construction industry and aviation industry.

Project:

Runway overlay, Johnson-Bell Field

Location:

Johnson-Bell Field, Missoula, Montana

Applicant:

Missoula County Airport Commission

Project Description:

Heater/remix, bituminous friction course overlay and marking of runway 11/29.

Basic Grant Agency:

Department of Transportation, Federal Aviation Administration.

Total Project Cost: $314,624.00

Basic Federal Grant: $250,000.00

Recommended Supplemental Grant: $1,699.20

Economic Impact:

This project will maintain the integrity of the main air carrier runway at Johnson-Bell Field thus

insuring the uninterrupted use of the airport upon which the community of Missoula depends for air passenger and freight transportation in addition to the many aviation related jobs in the area.

Project:

Runway Realignment Roundup Airport

Location:

Roundup Airport, Roundup, Montana

Applicant:

Roundup Airport Board

Project Description:

Realign, lengthen and strengthen the main runway at the Roundup Airport, associated taxiway and apron reconstruction and marking.

Basic Grant Agency:

Department of Transportation, Federal Aviation Administration.

Total Project Cost: $428,000.00

Basic Federal Grant: $340,302.80

Recommended Supplemental Grant: $2,097.20

Economic Impact:

This project will enhance the useability of the Roundup Airport making it more attractive to the timber and mining industries which constitute a significant economic base in the Roundup area.

Project:

Terry Airport

Location:

Terry, Montana

Applicant:

Prairie County Airport Authority

Project Description:

Construction of new airport including land acquisition, 4,350 x 75 ft. paved runway, connecting taxiway and apron, medium intensity runway lighting, access road and boundary fencing.

Basic Grant Agency:

Department of Transportation, Federal Aviation Administration.

Total Project Cost: $344,285.00

Basic Federal Grant: $273,741.00

Recommended Supplemental Grant: $1,687.00

Economic Impact:

This construction will provide a useable airport for the Terry community and will play a significant role in the development of energy resources in this part of the state.

PROPOSED INDUSTRIAL DEVELOPMENT PROGRAM

Listed below are estimates of needs for industrial park projects. At the present time, cost estimates are not available for some of the projects.

Project Description:

The Local Development Corporation, Great Falls Chamber of Commerce, the City of Great Falls, Cascade County and other interested parties wish to develop an industrial park northeast of the city comprised of 141.58 acres. The park would be subdivided to be attractive to a variety of small manufacturing firms.

Justification:

Recent dislocations in the copper smelting industry (i.e., zinc and copper plants of the Anaconda Company), cattle raising and feedlots, and possible fluctuations in Malmstrom Air Force Base personnel has resulted in stagnation of the area's economy.

The city-county planning board has zoned the land and has jurisdiction on this development. The proposed development is contiguous to the city-county boundary northeast of the city in the Malmstrom Air Base area. The industrial park is to have paved roads and cement curbing, storm sewers, water and sewer system, natural

gas and electricity. U.S. Highway 89 (either side of the park), Burlington Northern Railroad and the Milwaukee Road tracks provide excellent access to the park.

Basic Grant Agency:

Economic Development Administration of the Department of Commerce.

Total Project Cost:

$1,435,530 (land $495,530; utilities $850,000)

Basic Federal Grant: $425,000

Recommended Supplemental Grant:

The total local share will approximate $500,000. A portion will be financed by loan or grant to supplement the basic grant and money raised by local people.

Project Description:

Develop 90 acre industrial park site one-fourth mile west of Belgrade city limits. The park would have paved streets and would be tied into the city's water and sewer systems. Natural gas and rail access for use by medium to heavy industry would also be provided.

Estimate of Total Project Cost: $450,000

Project Description:

The Bearpaw Development Corporation of Hill County is responsible for establishing an industrial park near Havre comprised of 14 acres, with storm sewers, water and sewer system, natural gas, electric utilities, and access to U.S. Highway 2. There are no rail facilities and the distance to the airport is two miles. A total of six businesses are considered to be serious prospects for the new park.

Basic Grant Agency:

Economic Development Administration of the Department of Commerce.

Total Project Cost:

$467,000 ($442,000/50% Hill County-$25,000 direct loan from FHA).

Basic Federal Grant: $241,000

Recommended Supplemental Grant:

A supplemental grant will be needed to pave streets and parking lots and to provide for sidewalks, lighting, security fence, landscaping, architects' fees, engineers' fees and administrative costs.

Project Description:

The Local Development Corporation has plans for a park consisting of 80 acres located at Tacker's Crossing near Corvallis and will include paved streets, lighting, water and sewer system, electric utilities, natural gas, landscaping and other amenities. Access will be via U.S. Highway 93. No rail access.

Justification:

A federal interstate highway is planned in the near future from Missoula to Hamilton at which time condemnation proceedings will displace many businesses which are currently in the highway right-of-way. It is the feeling of the city-county planner, the Local Development Corporation, and others, that the displaced businesses can best be relocated by creating an industrial park, fully zoned and approved by the county of Ravalli. Several businesses have shown serious interest in the proposed industrial site. It is important to note that the City of Corvallis is in the process of putting in a new sewer system and it may be possible for cooperation between these projects.

Basic Grant Agency:

Farmers Home Administration, U.S. Department of Agriculture.

Total Project Cost: $135,000

Basic Federal Grant: $100,000

Supplemental Grant Desired: $35,000

Project Description:

The development of an industrial park for the City of Anaconda to house light industry, warehousing, etc., from the revitalized central business district. The industrial site is on 2½ acres on the east end of Anaconda. The park can be expanded as needed by acquiring adjacent land located north of the proposed site. Ownership of the site is open and hopefully the city will form a Local Development Corporation to take over control of the site. The completed project will include 35,000 sq. ft. of building space with potential tenants to include the first light industry relocated from the urban renewal project in the central business district.

Estimate of Total Project Cost:

$400,000 and is funded through the Urban Renewal Community Development monies.

Project Description:

Develop an industrial park on land presently owned by the Burlington-Northern and adjacent to the Plum Creek Fiberboard Plant or an alternative site at Columbia Falls.

Justification:

An overwhelming concensus of opinion among community leadership and planners in the Flathead Valley points to Columbia Falls as the area best suited for accommodating heavy industry. In the fall of 1972, Viro Dyne, under contract with EDA, reported on the feasibility of such a park in Columbia Falls. A renewed effort to develop an industrial park in the area appears likely.

Estimate of Cost of Project:

Unknown. Information on several sites in addition to the Viro Dyne feasibility study site, has been compiled and is available for review at the Division of Economic Development office.

Project Description:

Develop an industrial park on property owned by the City of Miles City and acquire adjacent property for future development.

Justification:

Miles City is well positioned to benefit economically from growth as a result of coal development activities in Eastern Montana. An indicator of population growth since the 1970 census is reflected by the fact that some 500 new residential units have been approved for

construction since 1970. This growth suggests a need for well conceived planning for a zoned industrial park. BLM is currently considering a proposal of the city to acquire 23 acres of property adjacent to city owned property located about one-half mile west of the city limits.

Estimate of Project Cost: Unknown.

Project Description:

The community leaders in Polson have organized an industrial committee within the Chamber of Commerce. Top priority is given to the indentification and design of property to serve as an industrial park for light industry.

Justification:

The community would benefit considerably from a well conveived industrial park. Polson, which lies on the southern shores of Flathead Lake, is considered to be in a high amenity area and is being impacted by urban sprawl. An attractive industrial park, combined with strong zoning, would effectively combat further sprawl as it relates to light manufacturing activities in the area.

Estimate of Total Project Cost: Unknown.

PROPOSED HIGHWAY AND RECREATION AND TOURISM PROGRAMS

At the present time, the proposed highway and recreation and tourism programs are being compiled by the Department of Highways and the Department of Fish and Game. As soon as these essential public investment sectors of the Montana economy have been analyzed and a set of project specific program recommendations are set out for implementation, they will be submitted to the Commission.